41.

the OIL AND GAS JOURNAL

MAR 8 1940

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1940

PRICE
CENTS

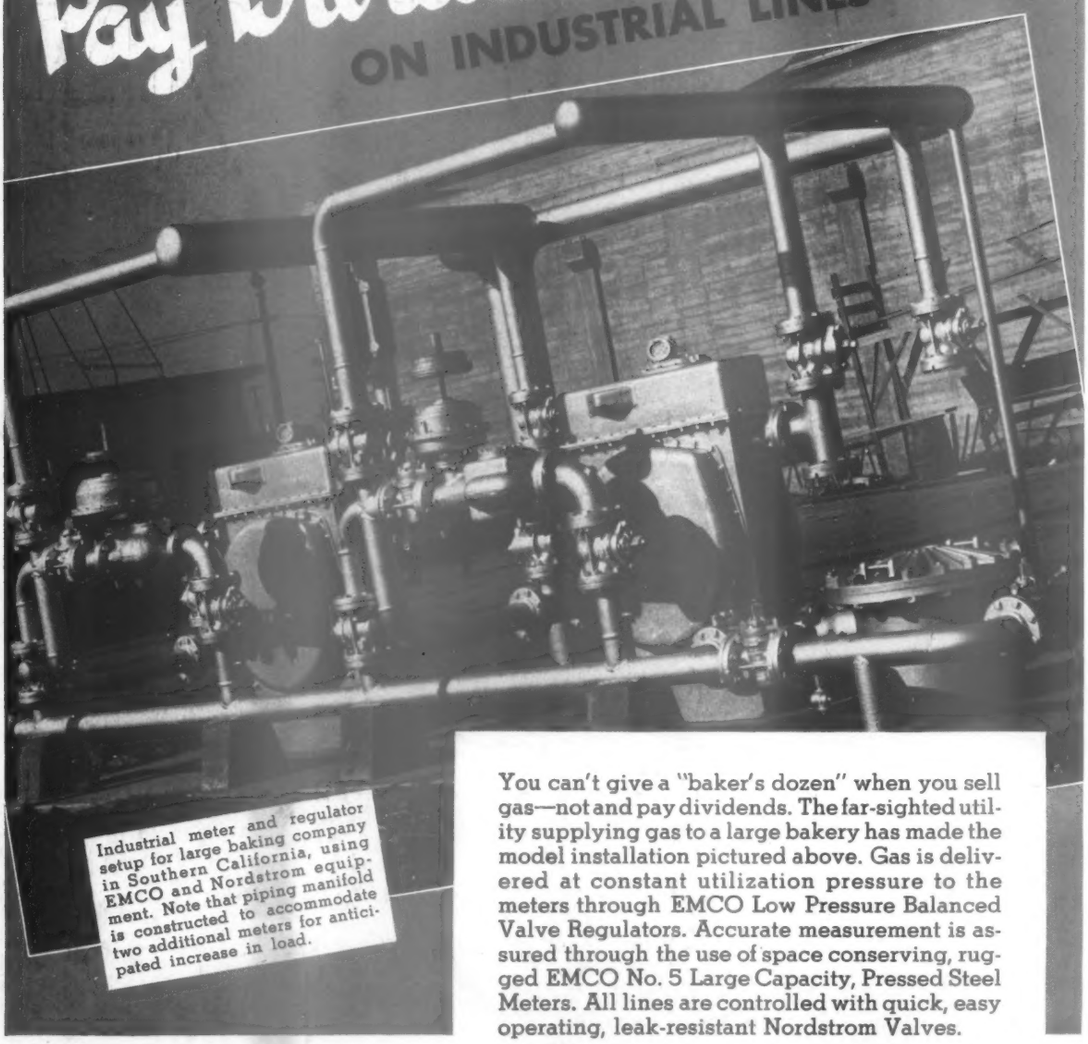
DRIL

CAN'T CREEP ★ WONT LEAK
HANDLE FASTEST ★ LAST LONGEST
OF ALL DRILL PIPE JOINTS

HYDRIL

EMCO METERS AND REGULATORS
NORDSTROM LUBRICATED PLUG VALVES

Pay Dividends
ON INDUSTRIAL LINES



Industrial meter and regulator setup for large baking company in Southern California, using EMCO and Nordstrom equipment. Note that piping manifold is constructed to accommodate two additional meters for anticipated increase in load.

You can't give a "baker's dozen" when you sell gas—not and pay dividends. The far-sighted utility supplying gas to a large bakery has made the model installation pictured above. Gas is delivered at constant utilization pressure to the meters through EMCO Low Pressure Balanced Valve Regulators. Accurate measurement is assured through the use of space conserving, rugged EMCO No. 5 Large Capacity, Pressed Steel Meters. All lines are controlled with quick, easy operating, leak-resistant Nordstrom Valves.

PITTSBURGH EQUITABLE METER COMPANY
NORDSTROM VALVE DIV.

Science
Wahr

The Oil and Gas Journal

PUBLISHED WEEKLY BY THE PETROLEUM PUBLISHING COMPANY AT TULSA, OKLAHOMA

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ESSENTIAL IN PROPER FLOATING EQUIPMENT

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(II) Ample Circulation Areas. The correctly designed, streamlined Valve Assembly provides passageways ample for any circulating or cementing operation . . . a fact attested to by actual field performance under the most severe operating conditions.

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Trends

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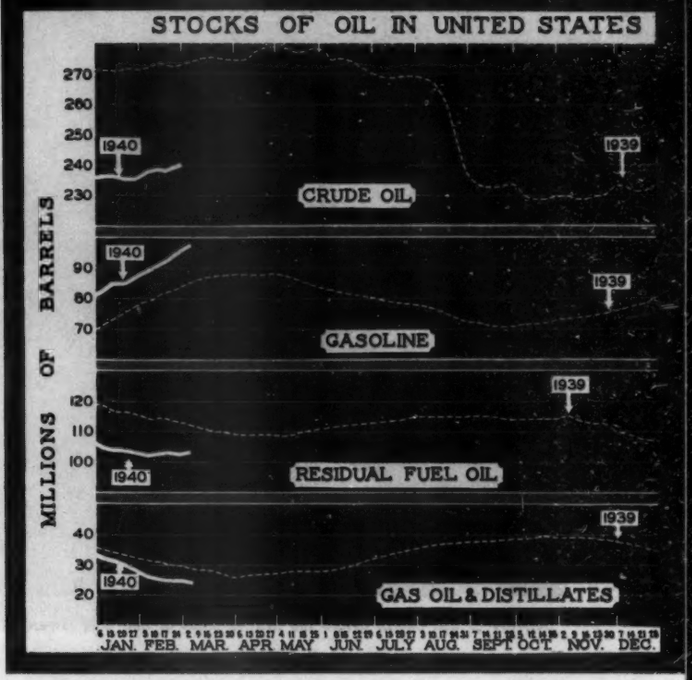

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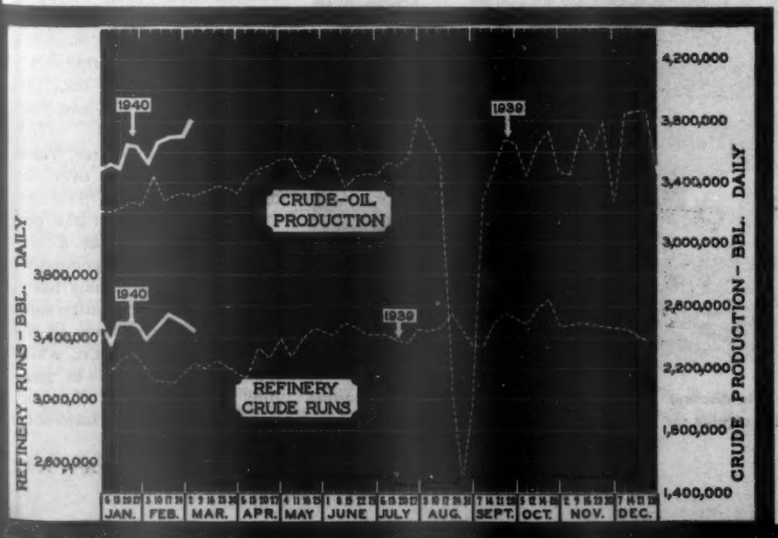
Remainder of state	281,975	.....	.....	281,850
Total Oklahoma	413,650	420,300	420,300	420,300
East Texas	484,000	.....	.....	397,340
West Texas	251,583	.....	.....	247,553
North Central Texas	137,754	.....	.....	135,294
Texas Panhandle	78,392	.....	.....	77,087
East Central Texas	79,600	.....	.....	79,613
Gulf Coast Texas	363,364	.....	.....	358,946
Southwest Texas	102,246	.....	.....	100,195
Total Texas	1,496,939	1,330,600	1,486,521	1,396,028
North Louisiana	69,130	.....	.....	67,940
Gulf Coast Louisiana	211,897	.....	.....	210,597
Total Louisiana	281,027	253,200	277,412	278,537
California	585,250	587,100	592,000	606,750
Kansas	176,900	153,900	165,000	173,200
Arkansas	68,990	65,500	70,000	69,270
Mississippi	6,815	1,300	.....	7,300
Eastern fields	105,000	111,700	.....	104,700
Illinois	404,477	329,700	.....	414,446
Michigan	63,877	64,800	.....	64,682
New Mexico	114,100	103,200	114,000	114,150
Rocky Mountain area	87,940	79,300	.....	88,680
Total United States	3,804,965	3,500,600	.....	3,738,043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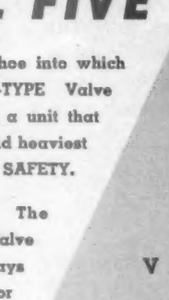
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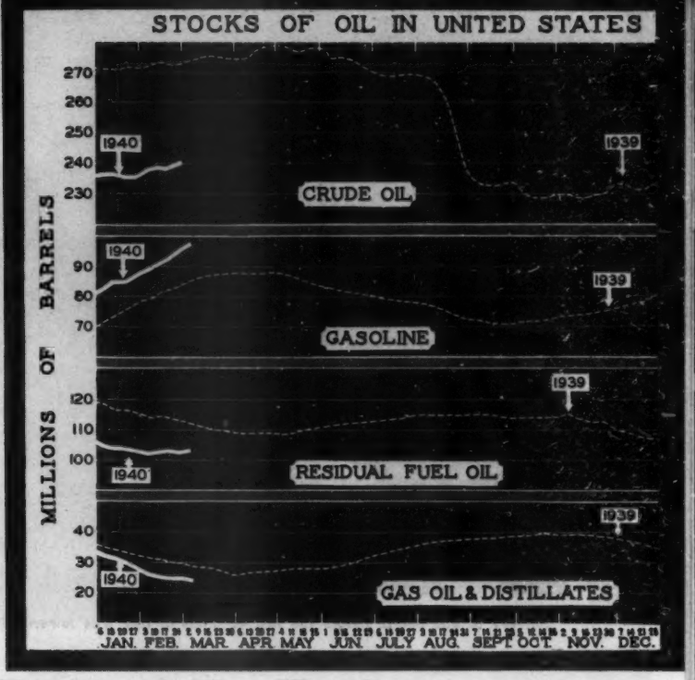

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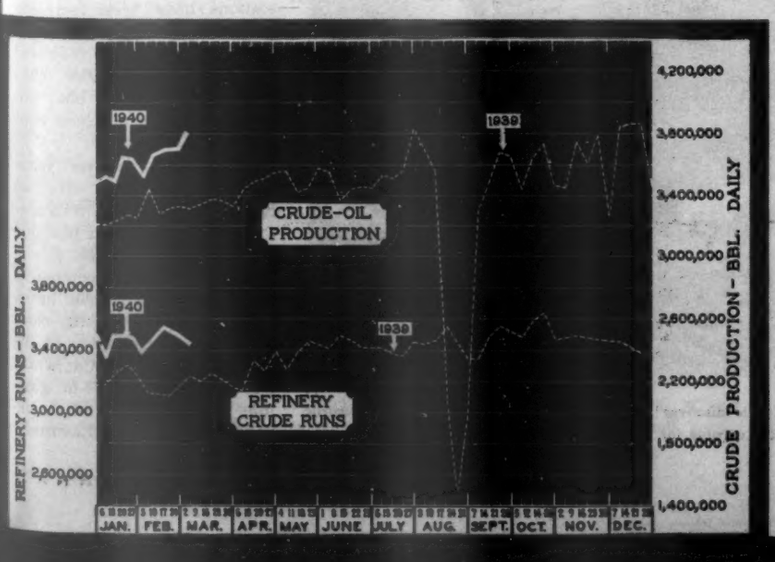
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Delivery of gas began before the last 40 miles of line was lowered into the ditch during the construction of Louisiana-Nevada Transit Co.'s new line in Louisiana

1940 May Exceed 1939 in Pipe-Line Construction

By PAUL REED

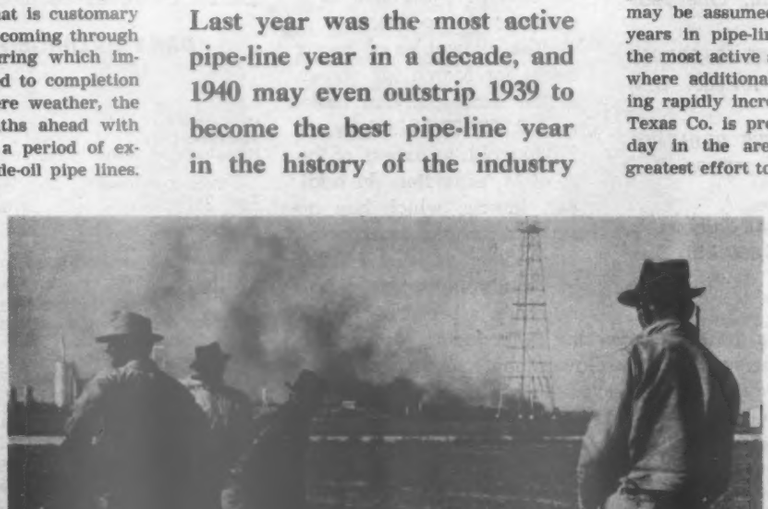
Last year was the most active pipe-line year in a decade, and 1940 may even outstrip 1939 to become the best pipe-line year in the history of the industry

THE unusual pipe-line-construction activity at this time runs contrary to what is customary for this season of the year. After coming through the busiest winter on record, during which important projects have been pushed to completion in spite of long stretches of severe weather, the industry is now facing the months ahead with substantial evidence that this is a period of expansion for gas, gasoline and crude-oil pipe lines.

The trend in pipe-lining is clearly indicated by the continuous expansion of recent years. Construction of important projects in 1937 represented about 2,000 miles; in 1938 it was 2,500 miles, and in 1939 the previous year's accomplishment was doubled with a total of more than 5,000 miles of line laid. In each of these years more than half of the mileage has been in crude-oil lines; expansion of gas lines has been progressively steady; the increasing proportion for gasoline pipe lines has been one of the outstanding features of the industry.

Projects already completed in 1940, together with projects now being constructed and those which will soon get under way, represent a total of 1,500 miles. Projects in prospect, for which no public announcement has been made, represent a greater amount of mileage. When it is considered that this is much more pipe-line work than is ordinarily in sight at this time of the year and since the industry has had a way of planning new, large projects in the late spring and early summer, it may be assumed that 1940 will exceed previous years in pipe-line activity. Through the winter the most active sector has been the Illinois basin, where additional facilities were sought for moving rapidly increasing crude-oil production. Since Texas Co. is producing more than 100,000 bbl. a day in the area, this company has made the greatest effort to build lines immediately. Through the winter months Texas-Empire Pipe Line Co. has been building 80 miles of loops in six sections. Loops between Salem and Heyworth, Ill., consist of 42 miles of 10-in. pipe. These loops have recently been tied in with the trunk line. The 38 miles of 12-in. loops between Heyworth and Wilmington, Ill., will be completed early this month. The contractor is Williams Brothers Corp. Capacities of four pumping stations have been increased in connection with the looping program to the following extent: Salem, 20,000 bbl.; Brownstown, 30,000 bbl.; Assumption, 15,000 bbl., and Warrensburg, 15,000 bbl.

Early in the winter Texas Pipe Line Co. took over the operation of Central States Pipe Line Co., which had previously functioned as a subsidiary serving the company's interests in the Illinois basin. Texas Corp. has recently sanctioned the organization of the Lawrence Pipe Line Co., which will build a 53-mile 6-in. gasoline pipe line from the company's refinery at Lawrence-



Holiday detector is run over line twice to discover bare spots in coating where Latex Construction Co. is laying more than 100 miles of pipe for Continental Pipe Line Co.'s crude-oil system

ville, Ill., to Evansville, Ind., where the gasoline will be transshipped in barges for movement up and down the Ohio River.

The largest new project undertaken to provide an outlet from the Illinois basin is Sohio Oil Co.'s 240-mile 12-in. pipe line from Stoy, Ill., to Lima, Ohio, which has been contracted by Sheehan Pipe Line Construction Co. and Truman-Smith Construction Co. Work started more than a month ago and has been impeded by snow and mud. An extension of outlets from Illinois is under consideration by a major company which may build a line from Lima, Ohio, to facilitate crude-oil shipments to Buffalo, N. Y. The route contemplated will go to a terminal on Lake Erie, where transshipment may be made by barge.

Unfavorable Weather Conditions

Outside the Illinois basin, construction work in the Middle West has been held up by unfavorable weather conditions on two major pipe-line systems. In Kansas Stanolind Pipe Line Co. has delayed starting construction of the 135-mile line of 8-in. and 10-in. crude-oil pipe line from the Bemis pool to Washington station on the company's pipe line from Wyoming to Freeman, Mo. In order to avoid delay later on at an important river crossing, a contract was let last week to C. S. Foreman Co. for laying a line across the Republican River in advance of the construction of the rest of the line. Work on the crossing is under way now. Construction work in connection with the 137-mile looping of the Panhandle Eastern Pipe Line Co.'s gas trunk line was suspended in this region during bad weather conditions. Construction has been contracted by T. R. Jones and I. C. Little.

Winter weather with heavy snow extended into parts of the South where it is not ordinarily expected. Louisiana-Nevada Transit Co. has recently completed the 100-mile system of gas line, including an 80-mile trunk line of 8-in., which connects the Cotton Valley, La., gas field with Hope and Okey, Ark. An unusual feature of the project is the fact that the line was placed in operation before it was possible to put the last 40 miles in the ditch. During the weeks when pipe was lowered in the ditch, pressure at the field end of the line was held down to 290 lb.; pressure at Okey was 250 lb.

The largest pipe-line project under construction now is Southeastern Pipe Line Co.'s 450-mile line of 6 and 8-in. pipe from Port St. Joe, Fla., to a point near Chattanooga, Tenn. About a quarter of the work has been done. In addition to delays caused by penetration of northern winter weather into this part of the South, interruptions in the continuous progress of the work have been caused by attempts on the part of railroads to prevent the line from crossing railroad rights-of-way. Since the granting of permission to cross rights-of-way is an established practice elsewhere in the United States and foreign countries it appears to be inevitable that the requirements of the pipe line will be met. Williams Brothers Corp. is building the line as a turn-key job.

Above: Road crossing being made by Williams Brothers Corp. for crude-oil pipe line in Illinois

Right: Ditcher of T. R. Jones bogged down in mud on right-of-way of Louisiana-Nevada line

Top of page: Beveling machine on project under construction by Williams Brothers Corp. to expand outlets from Illinois basin

Active construction work has been going on in northern and western Texas. O. C. Whitaker Co. and Brown & Root, Inc., have been building a 93-mile 6-in. crude-oil line for Basin Pipe Line Co. from Wasson-Bennett field to Big Spring, Tex. Construction of 66 miles of 6-in. loops by O. C. Whitaker Co. on a Sinclair-Prairie Pipe Line Co. outlet from the K.M.A. field is more than a third completed. This year W. G. Hanrahan has completed the laying of 125 miles of line in connection with Texas-New Mexico Pipe Line Co.'s revamping program for the purpose of increasing capacity and utilizing possibilities for gravity flow in the Monument, N. M., area. Altogether this program has involved the laying of about 200 miles of line over more than a year. Similar work in the Artesia, N. M., area has been considered by pipe-line interests. This may require the laying of 50 miles.

Gulf Coast Project Nears Completion

On the Gulf Coast, Continental Pipe Line Co. is approaching completion of a project which calls for the laying of more than 100 miles of 5½ and 8-in. pipe to revamp and expand the pipe-line system acquired through the purchase of Crude Oil Pipe Line Co. The system connects San Diego, Tex., and Corpus Christi, and furnishes an outlet for Lopez, Seven Sisters, Magnolia, and Alfred pools as well as the company's Driscoll-ranch property. Facilities at San Diego have been increased from a capacity of 8,500 to 20,000 bbl.; increases have been made at other points. However, the capacity of the marine terminal at Corpus Christi has not been enlarged. Construction is being handled by Latex Construction Co. Crude handled through the system is to be shipped by tanker to the company's Baltimore refinery and other points.

Of the pipe lines being planned for construction in 1940 which have not yet reached the stage of definite announcements the largest by far is the Hugoton, Kans., to Minnesota project of the Kansas Pipe Line & Gas Co. Plans call for the con-

(Continued on Page 19)

SPARKS . . . FROM THE NEWS

CENTRALIA'S BOOM: Speaking of booms, Centralia, Ill., is in the throes of a man-sized edition as its townsite field continues to extend westward. A frenzied drilling campaign shows no sign of tapering off.

GOOD START: Although 1940 is only one-sixth gone, it already shows promise of being another banner year for pipe-line construction. Projects already completed and contemplated represent a total of 1,500 miles.

KEROSENE AGE RETURNS: Kerosene has been bringing more than third-grade gasolines at many refineries for some time. If recent price trends continue the burning oils shortly will enjoy a price equality with the best grades of motor fuels.

GOOD RECORD: Out of 51 oil companies queried in a recent safety survey, 45 reported a decline in accident frequency and severity rates. The common cold still leads as the chief cause of employe absenteeism.

NEW ANGLE: The time has come, a speaker at an oil gathering declared last week, for business and the public to tell the politicians how much government they can afford to support, rather than giving the politicians carte blanche to determine the size of the public trough and the extent of governmental services. That would indeed be the millenium, and we doubt its coming for a while yet.

SPRING OPENING: After a quiet winter, Michigan brings in its first wildcat of the year in Ottawa County, 7 miles from the closest production.

EXTENSION: Just when it looked as though the secondary drilling spree in the old St. Louis, Oklahoma, field was beginning to wane, the Viola-lime zone was extended a mile, assuring considerable new drilling.

RECORD: Total potential of Kansas' 19,744 oil wells has passed 5,000,000 bbl. daily for the first time, thanks to some big single-well totals recorded by bombs, echometers, depthographs, sonic-meters and other calculators, plus physical production tests.

FORESCT: Muddy roads continue to delay Forest City basin operations, but rumors and rumors of rumors of new wildcats indicate a considerable revival of activity, while the Missouri state geologist predicts at least 30 tests in that state this summer.

HERESY: A state automobile dealers' association went on record recently as favoring gasoline-tax diversion, in order to escape new taxes. The dealers took the position that not all the gasoline-tax revenues are needed for highways. The oil industry cocks a snook at such treasonable utterance.

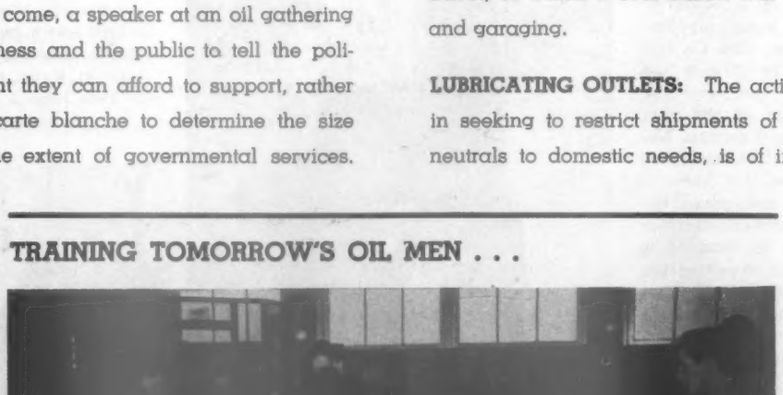
VACATION BILL: Early March is scarcely the time to talk of vacation travel, but not too early to plan on garnering one's share of the toll. In 1940, 5 billion dollars will be spent on vacation travel, of which a cool billion will be spent on gas, oil, repairs and garaging.

LUBRICATING OUTLETS: The action of the British Government in seeking to restrict shipments of lubricating oils to European neutrals to domestic needs, is of importance to refiners in this country who for several months benefited from large export outlets.

GROWING UP: Recyling, a new child of the industry, is rapidly growing up and becoming an important factor in manufacturing, producing, and marketing operations.

CHANGING PICTURE: Every day brings new announcements as to what will be done in the East Texas proration muddle. Right now it appears that the final say will come from a three-judge federal court on March 14.

TRAINING TOMORROW'S OIL MEN . . .



What is believed the first high school department in the world devoted exclusively to the preparation of boys for work in the oil industry is a feature of the vocational department of the Oil City, Pa., high school. Russell R. Buckham, instructor, former chief chemist for James B. Berry's Sons Co., teaches his charges welding, steam fitting, oil testing, basic production and refining principles

Geologists Can Do More Than Discover Oil

W. V. HOWARD JOINS JOURNAL STAFF

Dr. W. V. Howard, nationally known petroleum geologist, has joined the editorial staff of The Oil and Gas Journal as associate editor. Dr. Howard, who has been engaged in consulting work over the past 4 years, will devote his entire time to the preparation of editorial material dealing with geological and exploratory subjects. The first of a series of articles on modern exploration methods in the oil industry will be published March 14.

Dr. Howard is particularly well qualified by scholastic training and experience to keep the Journal's readers abreast of the developments in the finding and production of crude oil. A Canadian by birth, he received his bachelor of arts degree from McGill University in 1916, followed by a master of arts in 1922 and doctor of philosophy in 1924 from the same institution. In this university training he specialized in geology and mineralogy.

For 3 years during the World War he served with the overseas military forces of Canada. He was employed as assistant geologist with the Geological Survey of Canada during two summers and held a similar position with the Illinois State Geological Survey during the summers of 1931 and 1932. He filled other posts in completing his geological training and during 1920 was geologist for the Trinidad Petroleum Development Co., in Trinidad, British West Indies.

For 2 years he was instructor in geology at Williams College and for 10 years he was a member of the faculty of the University of Illinois. The last 5 years of this period he was associate professor, teaching petroleum-geology courses.

During 1926-1931, Dr. Howard was a research associate in charge of American Petroleum Institute Project No. 23, dealing with limestones as reservoir rocks of petroleum. He has contributed articles to the Bulletin of the Geological Society of America and the Bulletin of the American Association of Petroleum Geologists. During 1933-1936 he was in charge of the petroleum section of Annotated Bibliography of Economic Geology. He is a fellow of the Geological Society of America and is a member of the American Association of Petroleum Geologists and the Society of Economic Geologists.

DR. W. V. HOWARD

By W. V. HOWARD

IN The Oil and Gas Journal's editorial of January 25, there was one paragraph which every oil geologist should carefully consider. This paragraph stated: "New areas are constantly being found, as shown by the fact that 254 fields were discovered in 1939 and 217 in 1938, but with a few exceptions, there has been no hurried development in any new areas."

A single discovery in 1931, the East Texas field, gave the country 5 billion barrels additional proven reserves together with 10-cent oil. It also gave a number of geologists an opportunity to find out whether or not they could earn a living in other lines of endeavor. However, East Texas was developed rapidly and there were relatively few discoveries during the next few years, with the result that, by 1935, the reserves had dropped to less than 12 years' supply and new discoveries were needed to maintain an adequate supply for the expanding market.

During the lean years of the depression, many companies found that the geologists who had been so efficient in finding new production for them could go out and do the same thing for themselves. In view of the possible shortage in the near future, that ability did not constitute any particular menace, and by the time the new fields were required, they had become available.

The geologists who had received so much of their training from the companies aided the independents, although not on a salary basis. It might, therefore, be presumed that they will do the same thing now that proven reserves have again passed the 15-year mark. However, conditions are very different from the depression years.

Without entering into the quarrel between the geologists and the geophysicists as to who found what, we can say that of the 12,500,000,000 bbl. of new oil found since January 1, 1935, the production departments have found nearly half as much as the exploration departments. Moreover, of the 473 new fields found during 1938 and 1939, the great majority are not yet fully developed so that the production departments may find an additional 2,000,000,000 to 3,000,000,000 bbl. from these fields.

Added to these technical improvements which work against the geologist, there is another factor which is of even greater importance, namely, the efficiency of the geologist himself and his zeal in making known his discoveries. In the refining and equipment branches of the industry, developments are advertised widely because the processes or appliances are patentable and the reward is reaped by the discoverer. This is not true of the advances in geological science.

Prior to the days of Seminole, the prospective oil acreage was limited much more than it is today. We knew of the structures which were reflected at the surface, anticlines, faults, salt domes and the like. But their number was more or less limited. So long as oil was restricted to such structures, geologists were needed to locate them. When the geophysicist entered the picture, he sought the same sort of structure and the geologist welcomed him, although not too enthusiastically.

Old Theories Exploded

Geologists had certain superstitions, which limited the search for oil. It was generally thought that oil would be found on regional highs and around the margins of basins, but not within the basins themselves. Then, too, oil was never found below salt, which let out West Texas. Michigan proved that oil could be found in the deepest parts of basins on local structures and considerably over 1,000,000,000 bbl. of oil have been found below salt with another 3,000,000,000 or 4,000,000,000 bbl. yet to come.

Here and there a voice cried in the wilderness about unconformities, shore lines and other unreflected structures, but little was done about them until East Texas came along with its 3,500,000,000 to 4,000,000,000 bbl. of oil. Then came the Conroe trend and others, including the Wilcox-Sparta trend, and the realization that that was what we had been finding all the time in South Texas. Now wildcatters' work along the sides of regional structures looking for productive spots in lenticular sands, basing their exploration often on the information contained in old logs, which were kept largely at the insistence of the geologists.

Gleaners in old fields and thoroughly developed areas add to the flood of oil and occasionally bring in such pools as the Hittle pool in Cowley County, Kansas, right in the midst of production which is more than 20 years old. Others move out along regional highs. Of course, they all use geology and many of them use geologists. Most consultants, however, have learned that in order to cash in on their knowledge, they must give out their information for an interest and trust to luck that they will be able to eat while the well is going down. Others find their spots and promote their own deals, thereby increasing the hazards.

Almost all of them will give out a great deal of valuable information without any return whatever, in the hope that it will lead to something.

The great majority of operators consider a geologist simply as an oil finder. So long as oil is needed and the geologist can find new reserves, he is employed. When there is a surplus of oil in sight, no further exploration is needed and the

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The author suggested that this discussion might be headed "Let Them Eat Cake" or "The Perils of Geology." In it he discusses the increasingly important role that geology plays not only in finding oil but in carrying on other phases of petroleum operations.

Louisiana Conservation Supported by Jones

NEW ORLEANS, La., Mar. 4.—The victory of Sam Houston Jones of Lake Charles over Gov. Earl K. Long is regarded here as unlikely to affect the state's oil-conservation policy, except in a sweeping change of personnel in the administration of the Conservation Board, now headed by Ernest S. Clements.

Commissioner Clements was appointed by Governor Long after the retirement of Commissioner W. G. Rankin. He introduced many reforms and is regarded as having put the conservation program on an improved basis. As a partisan of Governor Long he stumped the state for him and, being a forcible speaker barred no clinches. Consequently, he has nothing to expect from the incoming administration and having been reelected to the state senate will be a watchful observer of the new conservation administration. David McConnell, director of the Minerals Division of the Conservation Department, is also expected to retire.

Mr. Jones, who will not take office as governor until May 14, has been so busy since the election with conferences on the political situation caused by Governor Long's attempt to obtain a place in the new state government, that he has been unable to go into details about his policies. He has, however, said emphatically that he will repeal the sales tax at once, declaring that he can do this without curtailing his social-welfare program because "enough money has been stolen in the handling of oil leases and other juggling of natural resources to take care of it."

As an attorney he has represented several oil companies in Louisiana and is regarded as a strict adherent of conservation and proration. During his campaign he did not attack the conservation program but promised elimination of any discrimination and dishonesty in leasing the state-owned leases which comes under another state department. Opinion in oil circles is that he will see that every oil operator is treated fairly and that he will cooperate with other oil-producing states.

The next governor of the Pelican State is a forceful personality. Slightly under average height and weighing about 150 lb., he gives the impression of compressed power, particularly when on the platform during a campaign. He is credited with having made about 700 speeches and is admitted to be one of the best orators in Louisiana. In contrast to his courtroom manner (he is a lawyer), when he takes the rostrum at a political meeting his deep voice commands and holds attention, and he knows all the arts that capture an audience. He is quick in repartee, an example being his response to a charge that he was a corporation lawyer, retorting that he must be pretty good or those able to hire the best would not have come to him.

Born in a log cabin in Beauregard Parish 42 years ago, Mr. Jones was one of a family of seven children. The family had settled near the Texas State line, but when Sam was 3 they moved to De Ridder, La., where he went to his first school. During high school the boy became ambitious and resolved to go to the state university and study law, his father being clerk of court at De Ridder. Young Jones sought and obtained employment at a sawmill and by the time he was 17 had saved enough money to enter the university.

Then came the war, 2 years later, and he joined the Army, serving in the infantry. Coming out of the Army, he resumed the reading of law and in 1922 was admitted to the bar and began practice at De Ridder, where he served a term as city judge.

Removing to Lake Charles, his present home, he was appointed assistant parish prosecutor, which post he held for 9 years. In 1921 he was the youngest member of the Louisiana Constitutional Convention during the administration of Gov. John M. Parker, whose reform administration made history. In 1934 Mr. Jones entered private practice as a member of a leading law firm. He entered the campaign for governor as one of five candidates and emerged as runner-up to Governor Long. In the second primary he won six of the eight congressional districts and 44 of the 64 parishes.

Sam Houston Jones, newly elected governor of Louisiana, succeeding Earl Long

Distillate-Recovery Rights Acquired by New Firm

THE Distillate Engineering & Processes Co. has acquired licensing rights in the field of distillate recovery from Stanolind Oil & Gas Co., Eureka Process Corp., Standard Oil Development Co. (New Jersey), Tide Water Associated Oil Co. and Seaboard Oil Co. of Delaware, according to an official announcement Tuesday. The new company has been organized to sell licenses under the patent rights of these companies.

Emby Kaye, widely known in natural-gasoline manufacture and refining circles, has been elected vice president and manager of the new company. He joined Skelly Oil Co. in May 1919, and was appointed head of the natural-gasoline department in March 1933. He became manager of the company's manufacturing department, including refinery operations, in December 1930, and vice president in charge of refining in 1933. Over the past 2 years he has been affiliated with the Tide Water Associated Oil Co.'s recycling-plant operations.

Although the processes covered by these licensing rights are relatively recent ones, conflicting and overlapping patent situations had developed and the clarification of the situation made possible by the formation of a new company should be constructive and of far-reaching importance. The licensing company makes available the results of the pioneer technological developments in the whole field of distillate recovery. Basic patents covering inventions made by Jay P. Walker and Edwin V. Foran, George S. Bays and William H. Vaughn are included.

The processes deal with the extraction of petroleum fractions from natural gas at high pressure, commonly referred to as distillate, and the return of the dry gas to subsurface formations. With these processes, valuable petroleum products can be extracted from natural gas without impairing the value of the gas reserves for such industrial uses as may be found. Furthermore, the licensed processes avoid the loss of recoverable distillate or condensate which is caused by withdrawal of gas resulting in a pressure drop with consequent retrograde condensation within the formation.

Plants operating under processes licensed by Distillate Engineering & Processes Co. include those of Anco Gas Corp. in the Long Lake pool, Texas; Tide Water and Seaboard companies' plants in the Long Lake and Cayuga fields; the Portex Oil Co.'s plant near Logansport, Tex., and the Process Oil Co.'s plant in the Agua Dulce field near Corpus Christi.

The company will maintain offices in the National Bank of Commerce Building, Tulsa. Hugh Ownby is president, and Dr. Paul F. Hawley, secretary.

Emby Kaye, vice president and manager of the Distillate Engineering & Processes Co.

Dry Holes Limit Music Mountain Pool

By J. P. O'DONNELL

BRADFORD, Pa., Mar. 3.—Completion of a number of dry holes southwest of the previously proven limits of the Music Mountain pool in Lafayette Township, McKean County, just outside the recognized limits of the Bradford field, is believed to have defined the longitudinal limits of this extraordinary pool where 58 flowing wells, 24 pumping wells, and 9 gas wells are producing from a formation discovered in 1937 and developed principally in 1939. The best well was reported to have flowed 600 bbl. an hour and the best gasser 15,000,000 cu. ft. per day. Some wells, like the Duffy No. 4, produced both gas and oil. This well had a gas volume of 7,000,000 cu. ft. and was a large producer of oil.

Northern limits of the pool were defined early. The most southern flowing well completed so far is E. A. Williams' No. 2 in Warrant 3433. Dry holes have been drilled by John W. Becker in Warrant 3410, 1,500 ft. directly west of the Williams well; by Quaker State Oil Refining Co. in the same warrant, 2,400 ft. southwest; and by McKinney & Williams in Warrant 3433, 1,800 ft. south. Quaker State did get a small pumping well 450 ft. north of its dry hole, and McKinney & Williams have a well drilling between their dry hole and the Quaker State duster that may prove significant.

If the currently indicated limits of the pool are proved by further drilling, the ultimate area will embrace approximately 530 acres. While the pool is comparatively long, measuring 3.7 miles from the No. 135 pumping well on the Niagara Oil Corp. property in Warrant 2276 to E. A. Williams' No 2 in Warrant 3433, it is very narrow. Its greatest width is in the southwest end of the pool, and there it is less than 1,500 ft.

Original Reserve Estimate Sound

Original estimates of the total reserves of the pool were 3,000,000 bbl. With several of the original flowing wells already on the pump, despite the fact that they were shut in more than a year when demand was at a low ebb, this estimate is still regarded as sound. The heavy concentration of wells in the lower end of the field may speed depletion. In a 90-acre section in which three property holders are represented, 20 wells have already been drilled and locations have been staked for several others. The present well density in this section is 1 to 4½ acres.

Maximum production of the pool so far has been 7,500 bbl. per day, reached late last year before intense winter cold set in. Production had been curtailed but was increased following the substantial gain in demand for Pennsylvania Grade crude oil, which had its inception last August and has continued since. Before the gain in demand, the production was reported to have been held within 2,000 bbl. per day. The maximum of 7,500 bbl. per day is expected to be exceeded if the present heavy demand for Pennsylvania crude continues, since drilling in the Bradford field, last year the source of 55 per cent of the production of this type of crude, has lagged so seriously in the past 2 years because of low prices. As a result, production from the water-flood area itself has been running well below previous levels. It has been estimated that 300 wells per month will be necessary to maintain water-flood production at the demand level, but completions in the first 2 months were 25 per cent under the estimated required drilling.

Wells Go On Pump

Originally, formation pressures in the northern end of the pool were reported at 550 lb. and in the lower end, 650 lb. Several wells in the northern end, like Niagara's No. 110, the discovery well, and No. 115 have gone on the pump. The decline in rock pressure has resulted in the installation of a number of pressure-maintenance units. One of these is operated jointly by Minard Run Oil Co. and Niagara Oil Corp. and is injecting gas into well No. J-1 on their common property line. The unit has a capacity of 1,600,000 ft. per day with a discharge pressure of 750 lb. Other recycling plants are operated by Healey Petroleum Corp., Williams Producing Co. (E. A. Williams) and C. G. Duffy. Injection wells on the Duffy property are Nos. L1, L2, and L3.

Whether or not the sand body is continuous from the upper end of the pool to the lower is not certain since there is a half mile of undrilled territory separating the two. Locations have been staked for two wells in this section, Nos. 5 and 6 on E. A. Williams Lot 2 in Warrant 3436. Another unusual feature is that shows sufficient to make small pumping wells were reported in Healey Petroleum Corp.'s W5 in Warrant 3436, two-thirds of a mile northwest of the pool axis, and in Minard Run Oil Co.'s Nos. 103 and 104 in Warrant 2265, 1,500 ft. east of the pool axis.

Approximately 20 locations are reported, but only 14 rigs are in operation. Most interesting of these, of course, are McKinney & Williams' No. 3 in Warrant No. 3433, Healey Petroleum Corp.'s No. X22 in Warrant 3436 and the Williams Producing Co. wells in the undrilled section. The Healey No. X22 location is almost midway between a Sliverville pumper and a dry hole, 900 ft. apart, and about 750 ft. north of the nearest flowing well.

The pool is regarded as a stratigraphic trap, typical of virtually all pools in the Pennsylvania Grade region, and the sand is a shore-line deposition. Cores taken in several wells have shown the sand, known locally as the Sliverville, to be white, coarse, very loose and with little cementation. Thickness is highly variable. Normally oil is encountered within 10 ft. of the top of the sand but occasionally substantial gas pays have been encountered above the oil. One of the best gas wells drilled so far is Minard Run's No. 105 which had an initial open flow of 9,000,000 cu. ft. None of the gas is being used commercially and virtually all of it is being recycled.

The method of completing and producing wells in this pool was described in The Oil and Gas Journal of June 8, 1939. Practices have changed little since, though some operators are taking additional precautions to reduce gas-oil ratios and to

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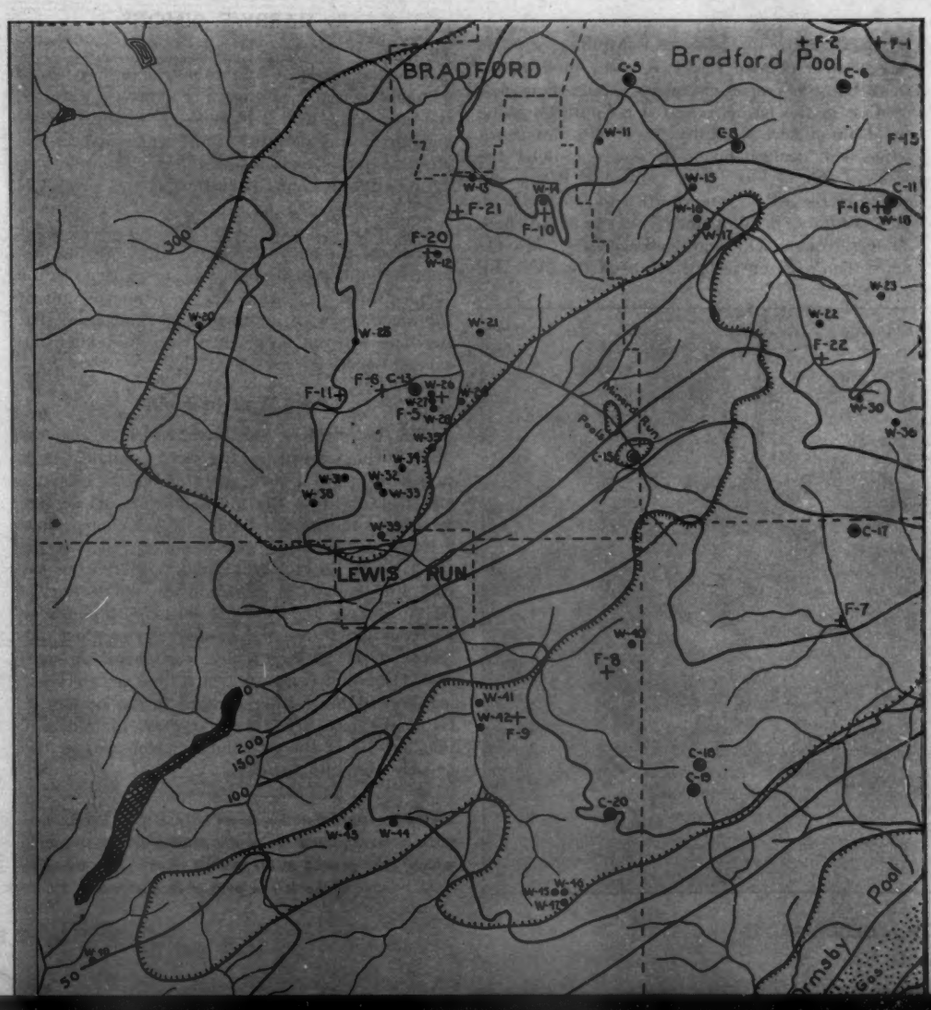


Map showing approximate location of Music Mountain pool (crosshatched area) in relation to Bradford field map from Bulletin M-21 of Pennsylvania Topographic and Geologic Survey

Looking east from drilling well on west edge of Centralia townsite. Acid truck at right is pulling away from spudding machine in the center which marks a recently completed well

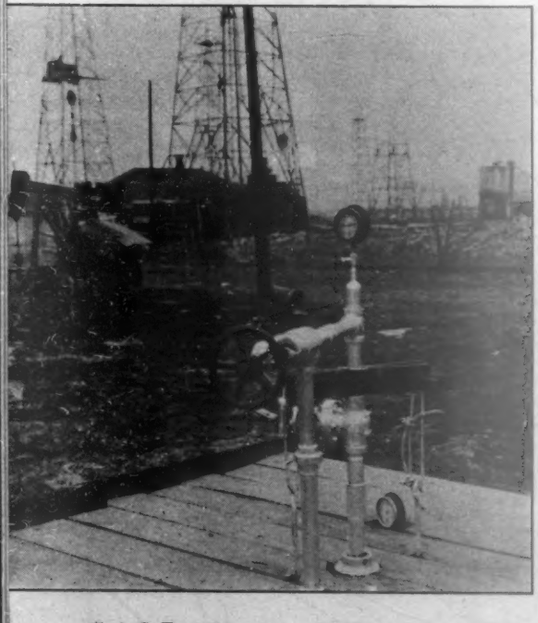
Scenes reminiscent of the East Texas boom of 1931 prevail now in Centralia, Ill., as hotels and restaurants are filled to capacity with oil men. More than fifty wells have been drilled, or are in process of drilling or will shortly be started within the city limits of Centralia. The average time for rigging up, drilling and completion is about 30 days

Sizable Boom in Progress in Centralia's Townsite Field

By HARRY F. SIMONS

CENTRALIA, Ill., Mar. 4.—Centralia townsite's oil field pointed the way to the great Salem field, but the recent discovery of Devonian production in the latter indicated possibilities along the Clinton-Marion county line, with the result there is a decided boom in progress along the western side of the city of Centralia. Hotels and eating places are once more filled to capacity with oil operators, drilling and trucking contractors, drillers, roughnecks and lease-workers. Already more than a dozen wells have been completed in the Devonian lime, about 10 are in the process of completion, 5 are waiting on cement to set around the pay string, nearly 20 more are drilling, 10 are rigging up and permits have been issued by the city for 7 more tests within the city limits.

Up to the present, all but one of the new wells have been located in Section 13-1n-1w, Clinton County, but it is evident the pay zone will cover practically the entire structure, although the productive limits will probably not be as large as the Benoist sand pay area, due to a sharpening of the structure with depth and the indication that the lime will not be productive as far down dip as the Benoist.



Looking north from the Louis Lilly No. 1 Head. Derricks in background are wells drilling to the Devonian which were started in the past 2 weeks. The pumping unit at the left is over a Benoist well

Best Well in Field

The first well in Section 12-1n-1w is also the best Devonian well in the field to date. It is Louis Lilly's No. 1 Head, 450 ft. from the east line and 1,400 ft. from the south line SE SE Section 12 which was reported flowing 90 bbl. per hour after being acidized. The discovery well in the field, Louis Lilly's No. 1 Gum, 720 ft. from the east line and 2,090 ft. from the north line of NE¼ Section 13, made 623 bbl. in 24 hours on its completion test; the discovery topped the Devonian at 2,863 ft., pay was encountered at 2,903-11 ft. and from 2,911-33 ft., but an electrical log showed high water content in the bottom 22 ft. of the pay. The discovery was an old well just outside of the city limits which was drilled deeper from the Benoist.

A large number of the leases in the field have changed hands since the Benoist development of 2 years ago, but a drilling campaign got under way almost immediately. Drilling of some tests was delayed for a time when an attempted completion about ¼ mile north of the discovery well showed high water content. Examination of the well showed the water was coming from above the pay formation, and, after several attempts, an almost complete shutoff was obtained and the well put on production. Operators who had temporarily delayed starting Devonian tests rushed out to get contractors to drill new holes, or deepen old ones. The city council hastened to get regulations established that would protect the property owners against damage from inequitable drainage, and the hazards of drilling and completing wells. Efforts to resist drilling during the Benoist development partially failed and the city rulers did not relish a repetition.

Drilling was restricted to one well to each half city block, or, in case the block was divided by two alleys normal to each other, to each unit so divided; the maximum that can thus be located in any block is four wells. Surety bonds in the amount of $10,000 were required along with the application for a permit to drill, and the operator also had to obtain insurance against public liability and property damage, have adequate fire protection while drilling and producing the wells and pay the increase in insurance premiums for property affected by this development. One fire has occurred since the development started but it was extinguished promptly by the equipment at the well. There has been some disagreement among operators and the city council as to what constitutes a block, and in many cases the operators have experienced difficulty in securing communitization agreements. The hold-out property

owners are the ones who will lose, as it is very doubtful that anyone will be anxious to drill unless he can get started at once and prevent drainage; a wait of a few months or a few weeks will mean the difference between a paying well and a financial loss.

The extension of the Devonian production to the north by Lilly's No. 1 Head brings the field out to the edge of the town-lot area and near the larger leases owned by the major oil companies and Adams Oil & Gas Co. The north end of the field will probably be developed on 20-acre spacing by the large leaseholders in the area, Gulf Refining Co., Shell Oil Co., Inc., and Adams Oil & Gas Co. There are also indications this will be the more productive part of the field. The structure is quite regular but there is quite a variation in porosity and permeability; however, cores taken from the wells do not give a good indication of the productivity as wells having poor cores from the standpoint of porosity have had high initials while some wells with good cores have not shown particularly high production when tested.

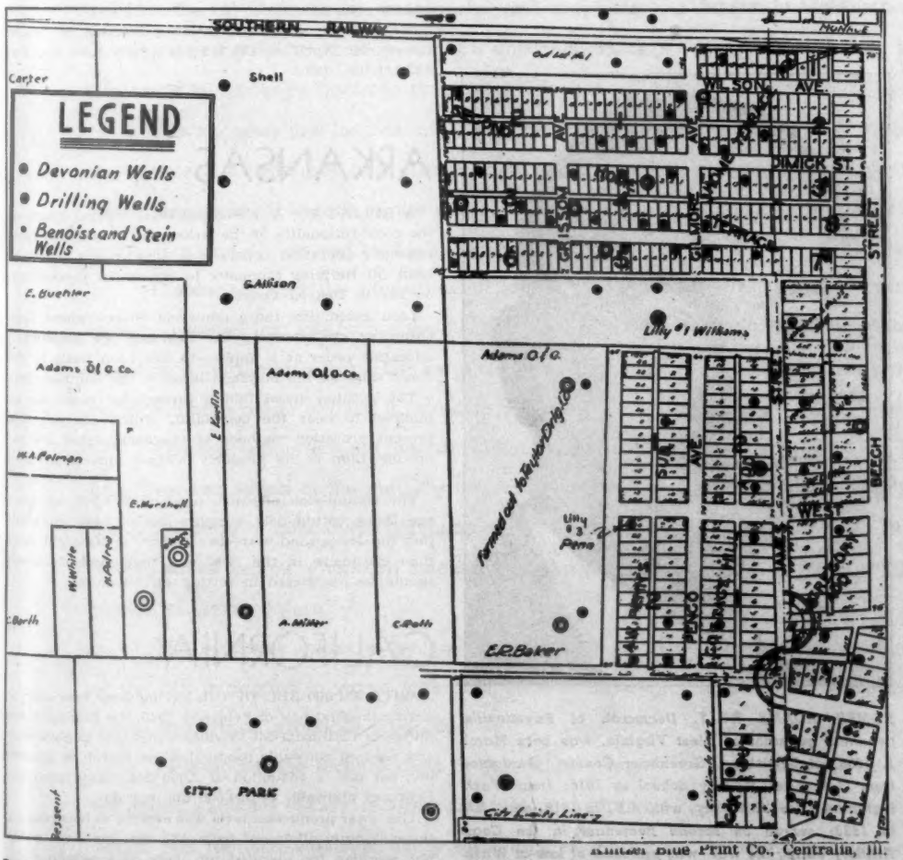
Four and one-half inch, 5-in., 5½-in. and 7-in. casing have been used in completion of wells to date with the former being used mostly on old wells drilled deeper. Average casing depth is 2,900 ft., about 16 ft. in the Devonian lime and about 4 ft. above the pay zone. Elevation in the area varies only slightly, the average for 11 completions being 496 ft.; average depth of the top of the Devonian is 2,864 ft.; average depth of the Devonian pay is 2,904 ft. and the pay averages 6.5 ft. in thickness.

Average initial completion is around 500 bbl. per day, the poorest producer making 250 bbl. and the best producer making 1,015 bbl.

Nearly all of the wells are making some water, although the amount is not feared as much as in the early days of the field. Quantity of water varies from a trace up to 6 per cent. Some operators purposely did not drill the full sand section for fear of encountering heavy water and nearly all have installed automatic gas-fired vertical treaters.

Practically all of the wells drilled to date have used rotary rigs to set casing in the top of Devonian and then have moved in cable tools for completion; the few exceptions which were completed with rotary have experienced considerable trouble due to the mud getting into the formation and then clogging the holes in the tubing anchor when the well was put on production. Acid treatments have varied from as little as 100 gal. to as much as 7,000 gal. Some have used single-stage treatment and others have used two-stage treatment; results from the latter do not indicate this practice will become general.

Fire extinguisher required by city of Centralia drilling and producing wells



Parts of Sections 12 and 13-1n-1w and 17 and 18-1n-1e, Clinton and Marion counties, showing Devonian completions and wells drilling and Benoist and Stein wells. Lilly's No. 1 Williams (Head) is the first well in Section 12, the farthest north and the best well in the field to date

Two attempts have been made to develop McClosky production in the field since the completion of Lilly's No. 1 Gum. Slight shows were obtained in both cases, but on test the wells showed considerable water and no free oil; both of the tests were in Section 13-1n-1w.

Cost Twice as High

The cost of participation in the Centralia townsite Devonian development is more than twice what it was for the Benoist development. The completion of a well in the Devonian will cost anywhere from $20,000 to $25,000, including drilling, casing, cement and cementing, cable-tool machine for drilling in, tubing, separator, heater for treating water, tankage and incidentals. Drilling costs range from $10,000 to $15,000 to the casing point, the variation being caused by the type of rig employed and whether the deal is cash, or oil payment. Costs are also increased by drilling through mines encountered by some wells. The average time for rigging up, drilling and completing is about 30 days.

With the exception of large acreage in the north end of the pool, the field will probably be almost completely drilled in about 90 days. Those starting later than that will have a hard time recovering enough oil to return the investment.

The race to obtain the production has resulted in a sudden flood of oil which must compete with the heavy flush of the Salem field. The oil is 41° gravity at 50° F. Sohio Corp., connected to practically all of the Benoist wells in the pool, has decided not to attempt to keep up with the Devonian production. The development is welcome to the independent refiners in Centralia as most of them have independent pipe lines through the field. In addition, Pana Refining Co., Pana, Ill., is purchasing in the field and shipping by tank car.

1940 May Exceed 1939 in Pipe-Line Construction

(Continued from Page 13)

struction of more than 2,000 miles altogether; more than 1,000 miles to be in the main trunk line and more than 1,000 miles in laterals. The estimated cost of the line is approximately $20,000,000. The R.F.C. has tentatively approved a loan of $11,500,000. For financing the balance, arrangements are being made by the present owners of the company and there is to be no public offering of securities. At present the company supplies 45 towns in Kansas and Nebraska through a 600-mile system built during the last 4 years. The operating office is at Phillipsburg, Kans.; executive offices are at Chicago. It is anticipated that a definite announcement may be made later in the month and that construction work may be under way this spring.

Considerable gasoline pipe-line construction work may be done in New England. Socony-Vacuum Oil Co. has been planning a line from Hartford, Conn., to Springfield, Mass. Two other gasoline pipe lines of importance in this area are being considered by major companies.

In Wyoming a 100-mile line is to be built by Northern Pipe Line Co. from a gas field north of Salt Creek to a line of the Montana-Dakota Utilities Co. Because of recent discussion on the part of various interests which have been giving attention to the possibilities of lines from the Rocky Mountain area to the Pacific Northwest, several contractors have visited this region in recent weeks to look over different routes which have been considered.

STATE CAPITALS...

OKLAHOMA

THE OKLAHOMA CORPORATION COMMISSION set allowable production on estimates for demand of the U. S. Bureau of Mines when it allocated a total of 420,300 bbl. daily for the March period. This is a reduction of 8,700 bbl. from February but 15,187 bbl. higher than actual production in January, conservation department records revealed.

In making the reductions only a few pools were cut back, with the unprorated areas carrying most of the cut. Percentages will be changed in a few of the fields. W. J. Armstrong, chief conservation officer, said at a conference of producers and purchasers.

Most important changes were: The new Byars field in McClain County given an allowable of 2,000 bbl. daily; Dill pool increased from 825 to 1,000 bbl. because of new wells, and the Hunton zone of the Fox field given 400 bbl. daily.

The Crescent field was cut 400 bbl. to 2,000 bbl., which brought total for Class B fields to 116,470 bbl. The Fitts pools were cut 1,000 to 20,000 bbl., to bring total of Class C fields to 21,248 bbl. daily. The Byars and Dill pools were transferred from Class D to the unclassified group to cut the total 1,125 bbl. to 3,090 bbl.

In the unclassified group, the King pool, Pottawatomie County, was increased 100 to 400 bbl. daily; West Little River was cut 597 bbl. to 1,000 bbl.; Oklahoma City-lower Simpson was cut 1,000 to 10,750 bbl; Oklahoma City-Pawhuska was cut from 2,246 to 1,500 bbl., and the Traugh deep zone was cut from 800 to 500 bbl. Total for the group was up from 56,182 to 57,039 bbl., through addition of the Byars and Dill pools.

Total prorated groups equaled 281,847 bbl., and the unprorated group was cut from 145,385 to 138,453 bbl.

TEXAS

ENTRY OF JUDGMENTS IN THE TWO SUITS attacking the Railroad Commission's proration order in the East Texas field was delayed until March 14, at which time the three-judge federal court will reconvene to consider the commission's request that execution of the judgment be stayed while the case is being appealed. Through staying the execution of the injunctions the commission hopes to prevent production from getting out of bounds as may result if the properties of the successful litigants, Humble Oil & Refining Co. and Rowan & Nichols Oil Co., are allowed to be produced at the rates the companies claim are more equitable. Both companies have notified the court they would oppose the state's motion for stay of execution. The commission, after unofficially changing its decision to appeal the case, at the end of the week officially advised the court that it would appeal the case rather than hold a field hearing and issue a new order in conformity with the court's oral rulings.

Opinion of many observers is that the court will not grant the commission a stay of execution. When the case was heard on its merits by the court at Austin recently, the two companies showed that the current order was preventing them from recovering their fair share of the daily allowable; that it was working an irreparable inequity against them daily. Thus for the court to withhold granting of the injunction, which it has stated it would issue, would result in the continuance of this loss, it is pointed out. Since it will be several months before the appeal can be heard by the U. S. Supreme Court, the loss would run into the millions of dollars.

Whether or not the stay order is granted, it is expected that additional suits will be filed by other operators who feel they likewise are being injured by the current order. If the stay order is granted pending appeal to the Supreme Court, and they are successful in establishing their claims, they would have that much accomplished when the ruling was handed down by the higher court. It is believed by many attorneys that any company in the East Texas field which can show that the order is likewise preventing it from recovering its fair share of oil would have excellent chances of obtaining an injunction.

Commissioner Jerry Sadler, who did not join with the two other commissioners in their decision to appeal the case, reiterated his objection to the appeal: That the Supreme Court's final law should be based upon a finding of fact by the federal District Court to the effect that wells can be produced in East Texas at an allowable rate of 5 to 10 bbl. daily. He feared it would mean, eventually, cutting down wells to 3 to 7 bbl. daily. He desired to hold a hearing in East Texas to gather data on the cost of operating wells, particularly those on small tracts, so that the commission could know if it is economically possible to operate wells at those low levels. There was in the record, he said, no evidence that the wells could not be operated at the low rates of production.

Forms of judgment granting injunctions upon the basis of the court's February 21 conclusions that the East Texas order is unreasonable were presented by Rex Baker and Rice M. Tilley, counsel for Humble Oil & Refining Co. and Rowan & Nichols Oil Co., respectively. The proposed judgment for Humble, Mr. Baker said, would permit the company to produce about 15,000 bbl. additional oil daily. Rowan & Nichols' daily production from its Todd-A lease would be raised from an average net allowable of 152 bbl. to a net average of 274 bbl.

James P. Hart, assistant attorney general, said that if the motion for a stay was denied, the state would carry its appeal on that issue directly to the Supreme Court. Likewise, the appeal on the merits of the case will be taken directly to the high court because the trial was before a three-judge court especially empaneled for the suit. Because of the direct appeal, Mr. Hart said, he hoped a final decision could be had before the court begins its summer recess.

HOMER ADAMS HOLT, Democrat, of Fayetteville, twentieth governor of West Virginia, was born March 1, 1889, at Lewisburg, Greenbrier County. Graduated from Greenbrier Military School in 1915; from Washington and Lee University, with A.B., in 1918, and LL.B. in 1923; served as second Lieutenant in the Coast Artillery during the war; was professor of law at Washington and Lee University, 1923-1925; practiced law at Fayetteville, 1925-1933; elected attorney general in 1932; elected governor in 1936

NEW MEXICO

THE NEW MEXICO OIL CONSERVATION Commission has set New Mexico's March oil allowable at 114,000 bbl. daily, an increase of 1,000 bbl. over the February figure and 11,000 bbl. over the Bureau of Mines recommendation.

KANSAS

THE KANSAS CORPORATION COMMISSION has taken under advisement Kansas' March oil allowable after hearing that purchasers expected to buy approximately 180,193 bbl. of crude a day during the month.

Purchaser nominations were offered by Theo A. Morgan, conservation director, who said the 180,193-bbl. figure represented the estimated market requirements of all major buyers in the state.

Mr. Morgan said the estimated "consumptive demand for crude from Kansas" in March had been found by his department to be approximately 165,000 bbl. daily, about 12,000 bbl. in excess of the federal Bureau of Mines' 153,900-bbl. estimate.

February production was under an allowable of 165,000 bbl.

Mr. Morgan estimated crude purchases by major buyers for April at 182,212 bbl. daily and for May 182,441 bbl. daily.

ARKANSAS

A RULING BY A THREE-JUDGE federal court on the constitutionality of the Arkansas Oil and Gas Commission's proration orders was sought last week by Lion Oil Refining Company in injunction proceedings on file in District Court.

Lion asked that the commission be restrained from enforcing or extending its February 24 production allocation order as it applies to five Lion wells in the Jones sand on the Mayfield lease in the Schuler field.

The petition asked that a three-judge court be assembled to hear the complaint, which charges that present proration methods of the commission are depriving Lion of its property without due process of law.

The commission allocates production upon an acreage times bottom-hole pressure basis. Lion contends that the Jones sand is thicker under the Mayfield lease than elsewhere in the field and that sand thickness should be considered in setting up schedules.

CALIFORNIA

WITH 451,000 BBL. OF OIL having gone into storage during the first half of February 1940, the Central Committee of California Oil Producers met late in February and reduced allowable production for March to 592,000 bbl. per day, a reduction of 2,000 bbl. daily from the February allowable of 594,000 bbl. per day.

The lower production level was arrived at by reducing the maximum allotment from 185 bbl. per day to 182 bbl. per day for so-called top wells and reducing the allotment for intermediate wells by lowering the power factor in the proration formula now being used by the oil umpire's office.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Finish the Job

Regardless of the developments that may come later there can be no question that the oil industry has made a strong case against the Cole bill in the recent hearings at Washington and other points. There is reason to believe the bill will not be approved by Congress.

The trade associations and individuals who were responsible for the preparation of one of the most complete arguments against the extension of federal control in industry over offered are to be commended.

It is necessary to keep in mind, however, that the governmental proponents of this extension of federal control into the oil business are resourceful and may later develop a new political strategy, not now apparent, which will force the industry again to prepare a defense.

This suggests that the next big step is for the industry to take this testimony and present it in concise and easily understandable form to the millions of consumers and voters and put an end to this recurrent agitation.

Combined with the thousands of pages of testimony presented last fall before the T.N.E.C., the industry now has a particularly complete refutation of every important charge made against it in recent years.

The contention that the federal Government should take over regulation of the industry because of laxity in the application of conservation principles by the oil-producing states and as a national defense measure was exploded as never before.

The evidence adduced by government supporters of the bill in regard to waste was of a general nature, based largely on practices long obsolete.

In contrast, the technologists of the industry gave testimony showing steady progress in efficient operation which has reduced waste in every form to a minimum.

In regard to national defense, no one who studies the testimony can help but be convinced that the industry has placed the country in a stronger position than ever in meeting any national emergency involving petroleum.

The committee, in addition, has had an unparalleled opportunity to consider the achievements of a free enterprise, a particularly valuable contribution in these days when the futility of governmental subsidies and regimentation has brought a major national problem.

The testimony revealed an exceptional employment situation, outstanding technical accomplishments, steady improvement in the quality of products for old and new uses, coupled with a low price, all of which are known to have impressed the members of the Cole committee as they had the membership of the T.N.E.C.

It is not to be expected that this will prove a permanent answer to those who are seeking to regiment the industry under federal regulation. Experience has indicated that the small group who are endeavoring to make major changes in our form of Government in the conduct of business are ingenious, and the arguments presented against their position are quickly forgotten.

They will not be if the industry acts. It now has the necessary information, as placed before the Cole committee and the T.N.E.C., in complete but voluminous form. The testimony can be segregated and correlated for popular use. The public should be told these things so it can be on its guard.

If the great majority of the industry's customers were made familiar with the facts as they have been presented before these committees there would be no danger of further outbreaks against the industry as it is now being operated. The consumers of petroleum products would see it is to their own interests to preserve the efficient industry which is serving them so well, rather than to allow some bureaucrat to stage another demonstration of governmental incapacity to handle business.

March Demand for Crude Oil 4.5 Per Cent Over Year Ago

THE daily average supply of domestic crude oil estimated by the Bureau of Mines to meet the market demand in March 1940 is 3,500,600 bbl. This is 28,400 bbl. (1 per cent) less than the estimated demand for February, reflecting primarily the unusually high gasoline inventories now on hand and the relatively low level of current exports. On the other hand, the estimated demand for March 1940 is 4.5 per cent more than the actual demand in March 1939, reflecting an overall gain in the domestic demand for all oils.

Relatively high runs, unbalanced yields in relation to the demand for products, and the decline in gasoline exports in the last quarter of 1939 have resulted in a material seasonal excess of gasoline stocks. The total stocks of finished and unfinished gasoline rose to 82,900,000 bbl. on December 31, 1939, compared with 71,700,000 bbl. on December 31, 1938, an increase of 11,200,000 bbl.

As these additions to normal storage may represent about one-third of a possible 5 to 6 per cent increase in domestic gasoline demand during 1940, their absorption involves either a postponement of the usual seasonal increase in runs, or some reduction in normal gasoline yields, or both. Gasoline export trends are still materially below the high levels for the same periods of last year. The reduction of gasoline stocks will be a major problem in the second and third quarters of this year.

The estimated domestic demand for motor fuel is 45,100,000 bbl., representing an increase of 6 per cent over the actual demand of 42,520,000 bbl. in March 1939.

The estimate for exports of 3,400,000 bbl. is almost a million barrels less than the actual exports of 4,336,000 bbl. for March 1939.

Natural gasoline to be blended at the refineries is estimated as 6.5 per cent of the total gasoline production, or 3,170,000 bbl. The yield of straight-run and cracked gasoline is estimated at 44.0 per cent. The application of this yield to the production of 45,530,000 bbl. of gasoline gives crude runs of 103,520,000 bbl., or 3,339,400 bbl. daily. Foreign crude runs are estimated as 2,200,000 bbl.

ESTIMATED DAILY AVERAGE CRUDE-OIL DEMAND BY STATES (Barrels)

(As no changes in crude-oil stocks are involved in these estimates, they represent demand rather than production)

State—	Forecast Mar. 1940	Forecast Feb. 1940	Actual Mar. 1939
Texas	1,330,600	1,371,400	1,321,000
California	587,100	585,900	606,000
Oklahoma	420,300	429,000	431,000
Illinois	329,700	325,500	173,000
Louisiana	253,200	252,800	266,000
Kansas	153,900	155,500	158,000
New Mexico	103,200	100,300	109,000
Arkansas	65,500	60,000	51,000
Michigan	64,800	64,500	53,000
Wyoming	60,600	55,200	65,000
Pennsylvania	55,000	54,900	44,000
Kentucky	15,200	15,200	16,000
Montana	15,200	15,200	12,000
New York	14,700	13,900	18,000
West Virginia	11,000	11,000	10,000
Ohio	8,700	8,700	12,000
Indiana	7,100	5,200	2,000
Colorado	3,500	4,100	4,000
Mississippi	1,300	700	.....
Total	3,500,600	3,529,000	3,351,000

Margaret Flournoy Retires After 22 Years Service

As secretary to key officials of the Standard Oil Co. of Louisiana for the past 22 years, Miss Margaret Flournoy is one of the best-known women in the oil

MARGARET FLOURNOY

industry. On March 1 she ended her long period of service with that company, at the retirement age of 55, provided by Standard of New Jersey companies.

Miss Flournoy's first position with Standard Oil Co. began in 1918 when she was secretary to Judge J. C. Pugh, general attorney in Shreveport. Her next office was as secretary to C. K. Clark in 1921, when he was vice president and general manager. Upon his elevation to president she went with him to the Baton Rouge office in 1926, and remained in that capacity until his death in 1927, when she returned to her home city of Shreveport as secretary to W. L. Stratton, general manager in charge of production. In 1936, Mr. Stratton was succeeded by J. R. McWilliams, now vice president, and Miss Flournoy has acted as his secretary until her retirement last week.

Her plans for an extended European tour upon retirement were disrupted by the war, so, following a Colorado vacation, and a visit to the Teche country of South Louisiana, her plans are indefinite. She takes an active interest in company and civic affairs in Shreveport.

DEATHS

LYNDON H. OAK, foreign representative of E. B. Badger & Sons Co., died suddenly March 2, in Paris.

HERMAN L. BACHMANN, 70, retired employe of Mid-Continent Petroleum Corp., died February 29. A native of Pennsylvania, he moved to Missouri and then to Tulsa 22 years ago.

J. D. VANCE, 58, died February 29 in Tulsa. He was born in Waco, Tex. In 1909 he began his career in the oil industry, working as a tool dresser in Red Fork. He became a drilling contractor, and later oil-field superintendent for Phillips Petroleum Co. He retired in 1930.

DAVE J. FINLEY, 43, independent oil operator, Midland, Tex., died March 1 of burns received when an explosion wrecked his room.

FRANKLIN STANTON PROUT, geologist with Cities Service Oil Co., died February 21 in the Nix Hospital at San Antonio, Tex., of complications following an appendectomy. He was born in San Diego, Calif., December 5, 1889. He was graduated from Leland Stamford, Jr., University in 1912 with a degree in mining and geology. Two and one-half years were spent in geological and engineering work in Venezuela. He joined the staff of Cities Service Oil Co. in April 1924 and for the past 5 years had worked out of Bartlesville, Okla., headquarters.

FRED S. SCEPTER, who had worked 40 years in the Texas, Kansas, and Oklahoma oil fields, died February 23 at Winfield, Kans. He was born in Mount Etna, Iowa, September 1, 1874.

Buell F. Jones Successor to L. L. Stephens on Retirement

Although Louis L. Stephens, general counsel of Standard Oil Co. (Indiana) reached normal retirement age on March 2, he will continue on active duty to

L. L. STEPHENS *B. F. JONES*

December 31, 1940, with the title of advisory counsel, it was announced by Pres. Edward G. Seubert.

Buell F. Jones, at present senior general attorney, will be advanced to the position of general counsel. Mr. Jones has been a member of the Standard Oil staff since 1930. He has been its representative in connection with several important hearings, trials and investigations.

Mr. Jones is a native of South Dakota and a graduate of its state university. He entered the practice of law at Britton, S. D., in 1914. In 1922 he was elected attorney general and served three terms.

Outstanding among many important activities for Standard was Mr. Stephens' direction of the famous "cracking" patents case, which was successfully terminated in 1931. He was also prominent among those who served as counsel in the Madison case. Mr. Stephens has been the company's general counsel since 1928.

THE MARKETS*

CRUDE OIL: Production increased 66,922 bbl. per day in the past week for which Texas was altogether responsible, with its increase of 100,911 bbl. per day. Illinois production fell off 9,989 bbl. per day presumably because of pipe-line congestion, and California reduced its output more than 20,000 bbl. per day. The total production of the United States averaged 3,804,965 bbl. per day.

REFINERY: Gasoline exhibiting little of the rising strength which normally is witnessed in March. A slightly better tone was observable in the Mid-Continent, but in other areas gasoline, especially the lower-octane grades, either showed no change or was softer. Mid-Continent lubricating oils joined in decline which started weeks ago in East. Milder weather continued to lighten pressure on heating oils, though prices were holding well.

TANK-WAGON AND POSTED DEALER: Continental reduced dealer and tank-wagon gasoline prices 0.5 to 2 cents in Montana and kerosene 1 to 3.5 cents in Montana, Utah, and Idaho. Scattered reductions in gasoline and kerosene made in other areas.

FINANCIAL: New lows for the year were recorded by oil shares, and prices moved in a limited range. Average of 30 representative stocks for week ended March 2: High, 25.69; low, 25.06; close, 25.29. Week ended February 24: High, 26.56; low, 25.62; close, 25.74.

*Detailed information in market section.

West Texas Wildcatters Exploit Holt Horizon

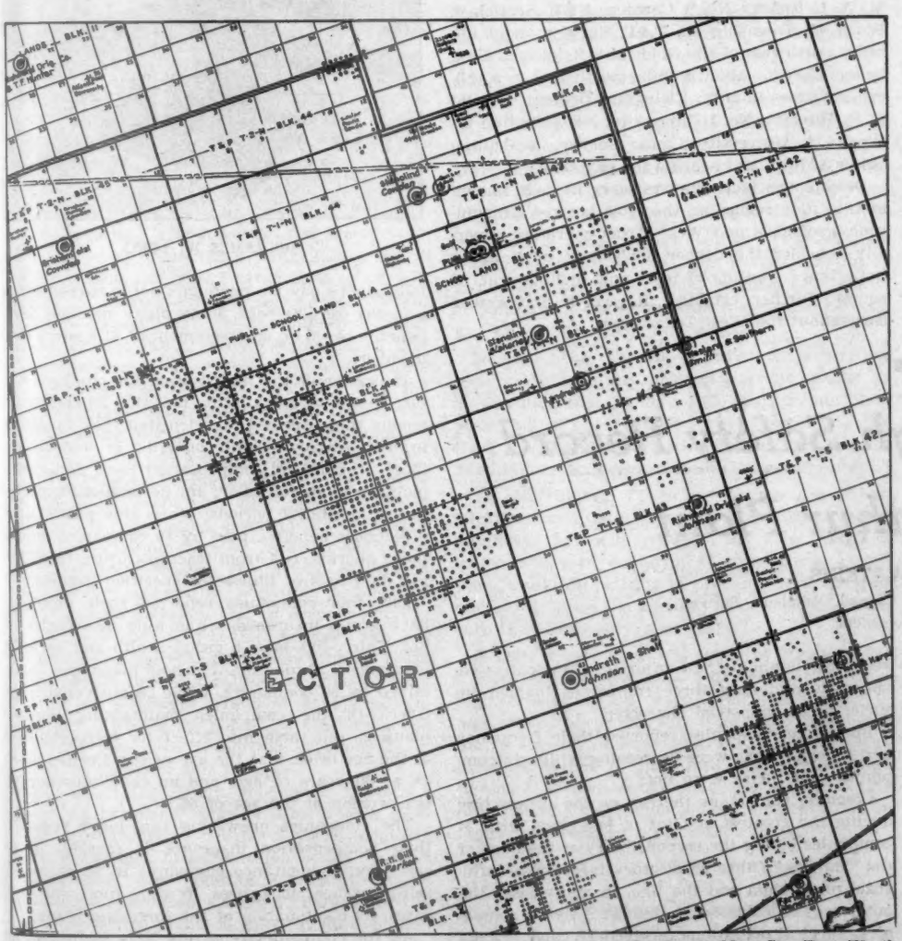
By R. MARNE SANFORD

MIDLAND, Tex., Mar. 4.—Being given increased development at the present time and scheduled to receive even more during the coming months is West Texas' recently discovered Holt horizon. Most of the semiproven acreage for this 5,200-ft. pay horizon lies in the northern part of Ector County and along the northwestern edge of the North Cowden field.

This new horizon, some 1,000 ft. below the regular pay level of the Ector County fields, was opened in June 1939 by Gulf Oil Corp.'s No. 1 Holt, CSL of Section 4, Block 43, Township 1n, T.&P. Survey, at that time about a mile northwest of the proven limits of the North Cowden field. The discovery well made 217 bbl. of oil daily from pay drilled from 5,148 to 5,161 ft. Comparatively little is known regarding the importance of the horizon as a potential-oil reserve, but four wells have succeeded in semiproving approximately 3,500 acres.

It is believed by geologists acquainted with the area that the structure responsible for the accumulation of oil at this new depth tends to follow closely the general contour pattern of the overlying structural conditions of the middle and upper Permian strata. Most of the production in Ector County, as well as throughout most of the southern Permian basin, comes from the Double Mountain series of middle Permian. This new horizon has been identified as a lime member of the Clear Fork series of lower Permian.

Characterizing the exploratory activity to the new level is the widespread scope of the wildcat tests. Lower Permian, 5,200-ft. wildcats have been started at various points in the northern half of Ector County and even northward into Andrews County. Adding to the importance of the deeper horizon, a wildcat being drilled by Gulf Oil Corp. just north of the Sand Hills field of central Crane County and some 40 miles to the south, showed for an 80-bbl. well, naturally, from the Holt horizon. Even further activity for the level is promised following reports that many of the small Double Mountain producing wells on the north end of the North Cowden field will be deepened in search of the Holt-pay zone.



Southwest Map Co., Fort Worth

Centering considerable attention in the southern Permian-basin area of West Texas is the widespread search for production from the Holt horizon. Four wells have been completed from this 5,200-ft. level, all being on the north end of the North Cowden field, and new deep-lime wildcats are being reported weekly throughout Ector and surrounding counties

Geology

The so-called Holt stratum is a lime member of the Clear Fork series of lower Permian age. It occurs some 1,000 ft. below the regular Big-lime pay of the Double Mountain series producing throughout most of the southern basin fields of the district. Occurring some 200 ft. below the San Angelo lime, the Holt pay has an approximate saturated thickness of 30 ft.; however, the lime is small pored and of low permeability. Its reaction to acid may be seen in the example of Stanolind Oil & Gas Co.'s testing well 2½ miles north of the Holt discovery area, a total of 3,000 gal. of acid increased the well's productivity only about 80 bbl. over its initial tests.

One of the greatest factors tending to increase wildcatting to the Holt horizon is the fact Gulf Oil Corp.'s No. 12 Waddell in Crane County, contracted to the Tubb-pay level, showed for 80 bbl. of oil daily, naturally, from this horizon. This fact establishes the level as an oil-bearing stratum in that area. The Gulf well, in Section 30, Block 26-B, P.S.L. Survey, topped the horizon extremely high as correlated with surrounding tests. Unlike all other wildcats in the area, instead of finding water in the section, considerable gas and some oil was logged between 3,635 and 3,640 ft. The 10-in. hole was reamed down to the top of the lime 3,480 ft. for possible future completion and drilling was resumed. The Tubb pay occurs some 600 ft. below the Holt level in this area.

Development

During the past 2 weeks announcements were made for six new deep-lime tests in the northern part of Ector County. This brings the status of the deep-lime development to seven tests and three wells completed. Recent new locations included a wildcat about midway between the North Cowden and the Foster fields and in the Johnson area. It was staked by Richmond Drilling Co. and Rhodes & Tompkins as their No. 1 Johnson, in the NW¼ Section 25, Block 43, Township 1s, T.&P. Survey. The operators intend to test the regular Ector County pay level and also drill deeper for a thorough test of the Holt horizon which is expected at about 5,175 ft.

Two new deep horizon tests were announced for the North Cowden field proper, one on the west and one on the east side. Extreme western-edge

producer and completed in 1934 as a small well, Landreth Production Corp.'s No. 1 T.X.L., is being deepened to the lower level. It is in the NW cor. of Section 3, Block 43, Township 1s, T.&P. Survey. On the west side of the North Cowden field Western & Southern Oil Co. has staked location for No. 1 Smith, NW cor. Section 6, Block 42, Township 1s, T.&P. Survey. It is projected to the regular North Cowden field pay level but will be carried deeper if commercial production is not obtained.

A long-standing wildcat location in the west central part of Ector County has been recontracted to the deep-lime pay. It is Ralph R. Gill's No. 1 Parker, SE¼ Section 12, Block 45, Township 2s, T.&P. Survey. It is about 3 miles west of the Harper field and is the southernmost test yet staked in Ector County. It is 7 miles southwest of the wildcat being drilled by Landreth Production Corp. and Shell Oil Co., Inc., and is some 18 miles south of the discovery well in the Holt horizon.

Newest Location

Newest location to be made which is projected to the deep level is Barnsdall Oil Co.'s No. 1 B. H. Blakeney, about a mile northwest of the discovery well of Gulf Oil Corp. It is located 1,980 ft. from the north and 660 ft. from the east line of Section 2, Block A, P.S.L. Survey. The location is approximately midway between the discovery and Stanolind's extension well. (Not shown on map.)

Another Holt test preparing to start is Sun Oil Co. and Atlantic Refining Co.'s No. 1 Holt, three-location-east offset to Stanolind's recent extension. The well was completed several years ago as a small producer from the regular North Cowden field horizon, but is to be deepened to the new level. It is in the SW cor. Section 5, Block 43, Township 1n, T.&P. Survey.

About 4 miles southwest of the town of Odessa another Holt wildcat is preparing to start. It is Farley and others' No. 1 Hendrick, NE¼ Section 38, Block 43, Township 2s, T.&P. Survey. This is a location taken over by the operators at a depth of 275 ft. and a test will be made of both the regular Foster-field pay zone and the deeper level.

Meanwhile, drilling or testing continues at the active wildcats. Most important is Stanolind Oil & Gas Co.'s No. 1 W. F. Cowden, just north of the center of the south line of Section 4, Block 43, Township 1n, T.&P. Survey, immediately south of the Ector and Andrews county line. The wildcat has afforded a 2½-mile northwest extension for the deep pay but has not yet been officially gaged. Last reports were the test was making about 80 bbl. of oil daily. It is testing at a plugged-back depth of 5,215 ft. Original total depth was 5,225 ft. where 55 gal. of oil and 94 gal. of water was bailed in 7 hours. The test has been given two acid treatments of 1,000 and 2,000 gal., respectively, and operators are planning a third-stage treatment.

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Two deep-lime wildcats some 12 miles west of the Holt discovery area are nearing critical stages. M. A. Grisham's No. 1 Cowden, NE¼ Section 4, Block 45, Township 1n, T.&P. Survey, about 3⅓ miles northwest of the Goldsmith field, is drilling below 4,500 ft. About 8 miles north and in southern Andrews County, Richmond Drilling Co. and T. F. Hunter's No. 1 University, NE¼ Section 21, Block 11, University Lands Survey, is drilling below 5,170 ft. and nearing the pay zone.

Despite the fact comparatively little is known at this time regarding the Holt horizon's magnitude, geologists and West Texas operators generally consider the deeper horizon of outstanding importance. Results of tests now drilling will, of course, further establish its worth and extent throughout the West Texas area.

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Employe illness caused more absenteeism than industrial and nonindustrial injuries combined. Figures kept by 38 plants showed illness to be the chief reason for lost time, while four companies reported nonindustrial injuries principally responsible and only three companies blamed injuries of an industrial character.

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Common cold takes the rap as the illness producing the greatest amount of lost time, with 24 companies laying the responsibility at the door of the "sniffles." Other respiratory infections—influenza, pneumonia and the like, in many cases the outgrowth of colds—were indicated by 29 companies. Surgical operations received 17 votes to take rank among the paramount causes of lost time, and gastro-intestinal disorders were listed by 10 companies. Tuberculosis, diseases of the heart and kidney, high blood pressure, malaria, rheumatism, arthritis and infections received a few votes each.

The survey showed injuries to employes occur in the following order of frequency: Cuts, abrasions, bruises and mashes, strains, strained backs, burns, foreign bodies in eyes, fractures, puncture wounds and slivers, hernias, gas effects and heat effects.

The average time lost per disabling injury is 43 days, according to reports from 33 companies. In 1938 the average for the entire industry was reported at 126 days. Seven weeks is the average time lost after hernia operations.

The average cost per disabling injury is $270, according to 19 reports.

Twenty-two companies said they had an employes' Mutual Benefit Association, while 37 answered negatively. Employe-association benefits included features ranging from $2 to $3 a day for periods of several weeks up to two-thirds of the

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individual's pay (in payments not to exceed $25.64 a week) for 52 weeks. Many plans included death benefits based on an assessment of $1 against each member.

Indicative of the high regard for employe welfare in the industry is the fact that 33 companies among those queried reported that they furnished injured employes with benefits in addition to those provided by compensation laws. Some companies provide full salary for permanent employes during disability periods, other give partial pay.

Sickness benefits, paid by 48 companies among those queried, run from fractions to full pay during durations of illness, or specified periods.

Fifty-four companies reported their employes have group insurance, while nine said theirs do not. Thirty-five have a group health and accident insurance; 23 do not. Pension plans are maintained by 34 companies, while 25 answered negatively. Of the companies maintaining pension plans, 28 put them into effect for men employes at the age of 65, 8 at the age of 60; 7 retire women at 60 years of age, and an equal number retire women at the age of 55.

The companies answering the query reported their compensation insurance is carried, in 25 cases, by an insurance company; in 12 cases, by self-insurance; in 4 cases, by state fund, and in 7 cases, by combination of the foregoing plans.

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House Passes Pollution Bill Confined to New Sources

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The Mundt amendment also declares that the discharge of new sources of water pollution without approval of the division is against the public policy of the United States and is a public and common nuisance. The Department of Justice is directed to bring equity proceedings in federal courts to stop such pollution.

This provision is not as drastic as many of the stream pollution bills which have been before Congress in recent years in that it contains no specific penalties for pollution and applies only to new pollution. It is, however, considered very objectionable by industries having wastes which must be disposed of, and a determined effort will be made to have the Senate reject it, or, failing in this, to have the bill die in conference rather than be sent to the president in this form. The Mundt amendment was referred to as a compromise between the industry viewpoint and the conservationists, but it is understood that it was accepted under pressure from the White House.

In general, the bill sets up a Division of Water Pollution Control in the Public Health Service directed to cooperate with other federal agencies and state and municipal governments in preparing plans for eliminating or reducing the pollution of navigable streams. The division is directed to encourage cooperative activities among the states to abate pollution and to prepare surveys and recommendations for this purpose. The bill also authorizes the Reconstruction Finance Corp. to make loans to municipalities or industries for constructing treatment plants to handle sewage or industrial wastes. As passed by the Senate the bill would also have authorized grants-in-aid in addition to loans for this purpose.

Adoption of the Mundt amendment creates a number of problems, some of which were mentioned during House debate. Several members criticized the lack of a definition of pollution or of the phrase "new pollution." Answering questions on the floor, Rep. Claude V. Parsons of Illinois declared that plants already in operation and which are now sources of pollution at certain seasons of the year would not be considered as new sources of pollution under the terms of the Mundt amendment. He said:

"I think I can safely say that with the Public Health Service and the chief of engineers represented on this board there need be no fear that industry will be disturbed under the provision against new sources of pollution. Enlargement of a present industry or an increase of the flow of pollutive substances from an established industry would not be a new source of pollution, because the present source of pollution is there."

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In order to speed American shipments through contraband control, the British Government has a system under which exporters may obtain in this country documents known as "navicerts," giving clearance to individual shipments. The implication of the advice given by the British Embassy is that for the time being applications for navicerts covering lubricating oil to these three countries will be delayed so long as to make exportation difficult, and that without navicerts the shipments would be held up at contraband-control stations on the other side of the Atlantic. Unofficial reports coming out of Germany say that while Germany may be able to obtain enough motor fuel to conduct a war for an indefinite period, its greatest need for petroleum products is lubricating oil.

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producer and completed in 1934 as a small well, Landreth Production Corp.'s No. 1 T.X.L., is being deepened to the lower level. It is in the NW cor. of Section 3, Block 43, Township 1s, T.&P. Survey. On the west side of the North Cowden field Western & Southern Oil Co. has staked location for No. 1 Smith, NW cor. Section 6, Block 42, Township 1s, T.&P. Survey. It is projected to the regular North Cowden field pay level but will be carried deeper if commercial production is not obtained.

A long-standing wildcat location in the west central part of Ector County has been recontracted to the deep-lime pay. It is Ralph R. Gill's No. 1 Parker, SE¼ Section 12, Block 45, Township 2s, T.&P. Survey. It is about 3 miles west of the Harper field and is the southernmost test yet staked in Ector County. It is 7 miles southwest of the wildcat being drilled by Landreth Production Corp. and Shell Oil Co., Inc., and is some 18 miles south of the discovery well in the Holt horizon.

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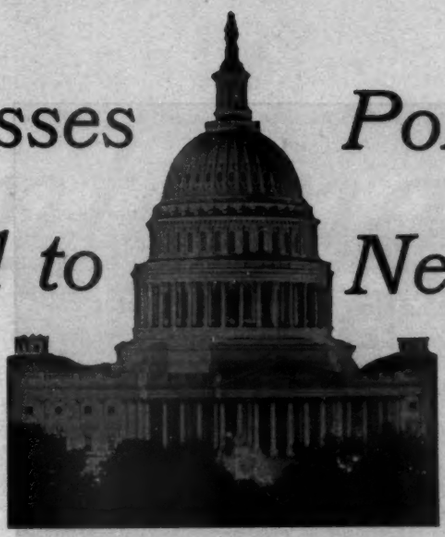

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The Gramps Oil & Refining Corp.'s (William E. Hughes estate) refinery at Alamosa, Colo., 7,600 ft. above sea level

Nation's Highest Refinery Completed For Gramps at Alamosa, Colo.

By T. R. INGRAM

DENVER, Colo., Mar. 4.—The completion of the Alamosa, Colo., refinery of the Gramps Oil & Refining Corp., located on a Spanish concession within the United States, is of unusual interest. In 1935 and 1936 a "mystery" oil field came into existence in Archuleta County in southern Colorado, just a few miles north of the New Mexico line. A discovery was made, the outlines of the probable productive area of the pool were determined by the drill, the wells were electrically equipped for pumping, tankage was erected, a pipe line for transporting the crude to a market was built, and a contract for the sale of the oil was signed and sealed before anybody outside of the organization had much of an idea as to what it was all about.

It is obvious that such an accomplishment could take place only under unusual conditions. In southern Colorado and northern New Mexico there are a number of large areas of land popularly known as "Spanish land grants" which were made by Mexico subsequent to 1810 when that country declared its independence of Spain. The William E. Hughes estate, of which Lafayette M. Hughes, a Denver attorney and member of a distinguished family, is the manager, owns a 65,000-acre ranch in the Tierra Amarilla land grant. Neither the state nor the federal Government has any voice in its development. There are no royalties to be paid. There are no laws or lease agreements requiring the drilling of offset wells. The operator may drill when and where he chooses and every barrel of oil belongs to the estate. It may be kept in the ground or marketed according to the will of the owner, and there is plenty of money back of him to do just what seems best with the property.

The extent of the oil pool is not definitely known outside the management of the estate and the experts who were engaged to work out the geology and other technical details, and estimates of reserves have ranged all the way from 5,000,000 to 25,000,000 bbl. The estate built a 15-mile 4-in. pipe line from the field to railhead at Chama, N. M. This line is the first of which there is any record that crossed the Continental Divide. At Chama the oil was loaded into tank cars and for some time was shipped over the narrow-gage line of the Denver & Rio Grande Western to the Continental refinery at Denver. The railroad line also crosses the divide.

Last fall construction on the refinery at Alamosa was begun. Here again the unusual entered the picture. The refinery site is 7,600 ft. above sea level and it is believed to be located at the highest altitude of any refinery in the country. Alamosa is in the center of the San Luis Valley, an enormous basin surrounded entirely by mountains. Up to within a few years ago it was reached from the north by a 54-mile railroad tangent.

The refinery was designed and built for the estate by F. E. Shelly, of Shelly Refining Co., Bay City, Tex. It presented many problems not encountered in the average plant. Yields and distillations, for instance, do not check at all with reports sent in from laboratories at sea level unless big corrections are made. Exhaust-steam lines and blow-down lines have to be made larger because of the reduced pressure, and stack drafts have to be corrected so much for elevation that the original formulas are almost forgotten. The oil crosses the Continental Divide twice before it is delivered into the refinery tanks.

The plant itself consists of a separate topping unit with a 1,000-bbl.-per-day nominal capacity, but which had an actual throughput of 1,250 bbl., separated entirely from the cracking unit as far as piping or heat exchange is concerned, but with a common instrument board and pump house. Thus the still men can readily supervise the two plants at all times, or the topping men can help out in the crackers. The topping design is conventional, with a tube still, flash tower, and bubble tower from which two side streams can be taken in addition to the usual cuts.

The cracking unit is a two-coil Dubbs unit with the two coils in an Equiflux furnace with a nominal capacity of 700 bbl. per day fresh feed. Open boxes are used throughout for cooling since it was felt that in the extreme winter weather shutdown troubles would be minimized with this type of equipment. Yields are good and the octane unusually high for the paraffin-base crude charged.

In addition to the Alamosa plant there is a skimming plant at Chama with an estimated capacity of 400 bbl. per day.

Survey Shows High Safety Record For Gulf's Port Authur Plant

(Continued from Page 24)

While it was revealed that the method of treatment for injuries is approximately the same in the various plants, depending upon the circumstances of the case, an interesting aspect of the treatment for burns is the variety of local applications.

Type of application and the number of companies using each follows: Tannic acid solutions, 11; butesin picrate, 6; bismuth paste (Beck's), 5; foille, 5; kip, 2; picric acid solution, 2; and tannafax, tan-gel, tannic acid and ferric chloride, saturated solution of sodium bicarbonate, normal saline compresses, gentian violet, chinscol, ungentine, zinc oxide and boric acid ointment, 1 each.

Treatments listed for back sprains include rest, support and strapping; complete physical examinations to find foci of infection; X-ray examinations; diathermy; infra-red lamp; other forms of external heat; water baths under pressure; massage; active and passive motion; injection of eucupin; injection of sodium chloride; hospitalization and osteopathic treatment.

Sixty-two companies obtain preemployment physical examinations; five do not. Eight obtain a physical examination just prior to laying off employes, and 55 do not.

The survey brought out suggestions for improving the medical service in the petroleum industry. An interesting remark follows:

"Full-time doctors, and those who devote considerable time to this type practice, should assemble at least once each year. The National Safety Congress affords a splendid opportunity for meeting. Eventually, the National Safety Council should organize a medical section."

Dr. Long concluded the report of his survey with the statement that adequate health maintenance and health promotion are major objectives. To attain these objectives, industrial medical service is faced with these problems:

1. Helping to select each individual and fit him to work according to his ability to perform it without injury to himself or fellow workmen, and with profit to himself and his employer.

2. Maintaining the health of the worker by periodic check-ups on his physical condition, as well as the place where he works.

3. Educating workmen in personal hygiene, and stimulating interest in accident and sickness prevention.

4. Reducing absenteeism and suffering from any cause.

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Dr. Rossini to Address Chemists On "Constitution of Petroleum"

Dr. F. D. Rossini, Bureau of Standards, will address the Southeast Texas section of the American Chemical Society March 14 in the Chemistry Lecture Hall, Rice Institute, Houston, Tex., at 8 p.m. His subject will be "Chemical Constitution of Petroleum." Dr. Rossini is director of the cooperative research program on the constitution of petroleum sponsored by the Bureau of Standards and the American Petroleum Institute. He will discuss the methods of fractionation and identification employed in the study.

Recently elected officers of the Southeast Texas section are: Chairman, Dr. I. S. Cliff, Shell Oil Co., Inc.; secretary, Dr. F. W. Jessen, Humble Oil & Refining Co.; councilors, Dr. H. B. Weiser, Rice Institute, and Dr. G. R. Gray, Humble Oil & Refining Co.

Dr. Rossini will also address the Southeast Kansas and Oklahoma sections at Bartlesville, Okla., March 9 at 8 p.m.

International

Mexico . .

President Cardenas Warns Oil Workers

THE economic pressure of drastically curtailed petroleum exports from Mexico made its first admitted impression last week since expropriation when President Lazaro Cardenas outlined a 14-point program of necessary retrenchment.

The program of drastic economies was presented by President Cardenas at a meeting February 28 in Mexico City with directors of the Mexican oil bureau and representatives of the workers' syndicates.

Most of the points made by President Cardenas represented a reduction from conditions existing prior to expropriation and in no respect meet the demands of workers made upon private companies. Refusal of companies to accept several of the more radical demands by the unions was held the direct cause of expropriation.

Reduction of personnel, dismissal of temporary workers, downward revision of wages and elimination of all possible overtime were among the major points in President Cardenas' program of economy. He appealed to the patriotism of the workers to accept the reforms with discipline.

President Cardenas pledged that an extensive program would be launched later this year, including drilling of several wells, construction of new pipe lines and repairs to older parts of the transportation system and modernization of refineries. He predicted that Mexico will be exporting 200,000 bbl. of oil monthly by the end of the year and said workers would reap the first benefits. Since the war halted Mexican oil shipments to Germany and other European countries, exports have dropped to less than 100,000 bbl. monthly. Most of the exports from Mexico since expropriation have been crude oil, whereas, the private companies shipped mostly products refined in Mexico.

President Cardenas held it indispensable that the government oil monopoly base its expenditures on an estimated revenue of 235,000,000 pesos ($39,715,000). In addition to operating expenses, President Cardenas said it would be necessary to reimburse the government for advances, to pay taxes and to set aside 20 per cent of the revenue from foreign sales to indemnify the expropriated oil companies.

The following are the most important of the points in the economy program:

First, permanent personnel in whole industry is to be pared to what it was at the time of expropriation, which is sufficient to provide for normal development of the industry.

Second, all unnecessary jobs will be eliminated.

Third, salaries of administrative officials will be cut.

Fourth, the number of temporary workers is set at a maximum of 10 per cent of the permanent workers.

Fifth, there is to be no overtime pay, except in absolutely unavoidable cases.

Sixth, there will be suspended for as long as necessary the payment of house rent to all workers earning more than 10 pesos a day.

Seventh, the National Petroleum Administration shall be free to transfer personnel to any zone or plant it may deem necessary.

Eighth, all promotions shall be made strictly on the basis of merit.

Ninth, in collective labor contracts now under discussion wages shall not exceed for any reason the scale laid down by the Federal Labor Board.

Tenth, no vacancies are to be filled unless absolutely necessary.

President Cardenas was particularly insistent that workers revise their attitude from that of antagonism existing toward private companies before expropriation.

The economies insisted upon by President Cardenas are in striking contrast to the demands made during early 1938 and late 1937. Workers not only insisted upon house rent but demanded medical attention for two generations removed from employes. Overtime scaled up to as high as 30 times normal pay under specified conditions of temperature, humidity, holidays and location of work in the demands refused by companies. Syndicates exercised control over transfers and promotions were based to a large extent upon seniority.

Egypt . .

Crude-Oil Production Is Double Year Ago

SEMIOFFICIAL figures on Egyptian crude-oil production, supplied by the United States commercial attache at Cairo, show November 1939 yield to have totaled 444,375 bbl., a daily average of 14,813 bbl. This compares with a daily average of 13,658 bbl. in October, and with 7,151 bbl. in November 1938.

Egyptian production for the first 11 months of 1939 totaled 4,277,067 bbl. against 1,398,434 bbl. for the same period in 1938.

Dominican Republic . .

Dominican Seaboard To Drill Another Test

DRILLING has been suspended at 4,300 ft. on Dominican Seaboard Oil Co.'s No. 1 Quita Coraza, a wildcat test in the Dominican Republic about 12 miles west of the Maleno dome structure which has been proven productive from a shallow horizon around 475 ft.

Preparations are under way to speed another wildcat test on Dominican Seaboard's holdings on the El Mogote anticline, a part of the Higorita concession.

Dominican Seaboard is also reported planning to drill some additional wells in the shallow productive region, partly for development of fuel oil with which to carry on its exploration campaign.

A delegation of officials from Standard Oil Co. of Venezuela recently investigated the prospects in the Dominican Republic. The party consisted of John Brice, Wortham Devenport, N. B. Arick and Roger Sherman. Louis Weeds, of the New York office of Standard Oil Co. (New Jersey), also was a member of the party which spent several days in the Dominican Republic.

Russia . .

American Engineers Tell of U.S.S.R. Conditions

SOVIET Russian petroleum-refining facilities are qualified to produce motor fuel meeting octane requirements of that nation's air force. This conclusion was expressed in Washington last week by three engineers of Universal Oil Products Co., who were recalled from Soviet Russia where they were supervising the construction of plants for production of isooctane.

Return of the American engineers before completion of the contracted jobs resulted from intervention of the U. S. Embassy in Moscow. The men were recalled because they were directing construction of plants for production of high-quality aviation gasoline, one of the functions barred by the State Department's moral embargo.

Upon their arrival in the United States the three engineers were called to Washington for a conference with officials of the Army, the Navy, Department of Commerce and the State Department. The engineers were identified at Washington by the names Miller, Rassmussen and Hugh Rodman.

Reports on the topics discussed at Washington were released by the State Department. Soviet plants do not produce gasoline equal to the American fighting grade, but by adding tetraethyl lead it will range from 80 to 85 octane. While use of 80 to 85-octane motor fuel would cut the efficiency of United States fighting planes, it is satisfactory for operation of bombers being used by the Soviet against Finland.

There has been some controversy as to the wisdom of withdrawing the American engineers because they might be replaced with German technicians. However, according to reports made at the time the embargo was applied by the company officials, the number of German engineers who have had experience with the American process involved is limited to those running a cracking plant built by an American firm.

Of the three Soviet isooctane plants, only one, that at Ufa, is sufficiently complete to be able to produce high-octane gasoline soon. The other two are still under construction, and without the guidance of American engineers it is not expected they will be completed soon.

France . .

Gasoline Rations Reduced March 1

THE French gasoline ration was reduced from 17 gal. per month to 11 gal. on March 1. Exceptions will be made only to those who can justify need for more to carry on their business or occupation.

There is no lack of supply or transport, but the government is anxious to economize on gold and devisen. It is estimated that the civil consumption is already reduced by half owing to rationing and increased taxation which amounts to 235 francs per hectoliter of imported gasoline. Franc equals 2¼ cents; hectoliter equals 26.417 gal.

Refinery Expansion

Engine and Fuel Teamwork Aided By Tune-Up Service

More than 3,000,000 automobiles were spurred to greater efficiency last year by motor tune-up service offered by garages and independent shops, a survey by the Ethyl Gasoline Corp. discloses.

Utilization of vast stores of latent power has been accomplished through closer teamwork between engines and fuels, according to John G. Martin, national director of the Ethyl motor clinics. With recent improvements in gasoline offered by the oil companies the car owner can get greater value for his gasoline dollars by tuning the motor to take advantage of these better fuels, he added.

Spreading public recognition of the advantages of scientific motor tune-up, fostered by the clinic program, is steadily cutting down the "startlingly high percentage" of cars which are giving subnormal service to their owners, Mr. Martin finds, and the goal of peak performance for every car on the highways, long sought by automotive engineers and petroleum chemists, is in sight.

As an example of the need for motor tune-up, Mr. Martin cited 8,200 automobiles that were studied, adjusted and tuned during clinic instruction and the startling facts that were revealed.

"The majority of these cars were less than a year old, and were operated by drivers familiar with engines and fuels, yet about 7 out of 10 required substantial adjustment to develop the maximum performance possible on the gasoline in the tank.

"During the present year we are looking forward to still greater progress in schooling not only motorists but oil-company personnel and automobile-agency workers in the interlocking practices of the petroleum and the automotive industries. The interdependence of fuels and car operation must be universally understood before the full possibilities of the automobile can be realized."

Interstate Commerce Commission Modifies Rail Order

The Interstate Commerce Commission has granted petition of Lion Oil Refining Co. and the Arkansas Corporation Commission for modification of the October 30, 1939, order granting railroads authority to establish petroleum rates from New Orleans-Baton Rouge, La., and Mobile, Ala., to Sheffield, Decatur, and Guntersville, Ala., and Chattanooga, Tenn., without observing the long-and-short-haul provision of Section 4 of the I.C.C. Act.

The modification requires the same relation in rates from Pearson, Ark., as from El Dorado, Ark., which were ordered not to exceed rates from New Orleans-Baton Rouge by more than 3.5 cents per 100 lb.

Pan American Refining Purchases Acreage

TEXAS CITY, Tex.—Pan American Refining Corp. has purchased a tract of 160 acres adjoining its present refining and tank-farm properties. Although no plans for immediate use of the land have been revealed, the company has been steadily expanding its refining and tankage facilities, and now has under way a project providing for the installation of a hydroforming unit.

Ark-La-Tex. W.P.R.A. Meeting At El Dorado, Ark.

Twenty-two questions, most of which were carried over from the questions and answers meeting in December, will be the basis for discussion at the monthly meeting of the Ark-La-Tex division of Western Petroleum Refiners Association, on Friday, March 8, at the Randolph Hotel, El Dorado, Ark., beginning at 4 p.m.

An important phase of this meeting will be a round-table discussion of catalytic processes, particularly their effect on the future of the refining industry.

A. W. Trusty, chief chemist of Arkansas Fuel Oil Co., will again act as chairman.

Canadian Refinery Will Install Dubbs Cracking

CHICAGO.—North Star Oils, Ltd., St. Boniface, Man., has signed a license agreement with Universal Oil Products Co., and will immediately install a 500-bbl.-a-day single-coil Dubbs cracking unit. Specifications and design will be furnished by Universal and the unit will be built by the Born Engineering Co., of Tulsa.

Provision will be made in the design for conversion of the unit to two-coil operation at a later date. The company now has a skimming plant running 1,200 bbl. a day of Turner Valley crude.

Col. George Chisholm is president, and T. M. Clayton, vice president and general manager.

Preliminary Test Runs At Calgary Refinery

CALGARY, Alta. — Preliminary test runs have been started at the new combination unit plant of Imperial Oil, Ltd., at East Calgary, recently completed at a cost of approximately $1,700,000. The plant is running Turner Valley crude, and will not be used in its entirety for several weeks. It has a capacity of 7,500 to 8,000 bbl. of crude daily, making it the largest refinery in western Canada. The original refining plant, costing around $1,000,000, will not be used after the new plant is in full operation.

Equipment Installed for Alberta Refinery

WARNER, Alta. — Refinery pressure vessels and equipment have been set up for the new Warner oil refinery which will be owned and operated by Mr. Osborn, formerly superintendent of the Hannah-Porter refinery near Sweetgrass, Mont. The Warner plant will have a capacity between 500 and 600 bbl. a day and will produce all grades of gasoline, distillate, diesel and fuel oil. It will start running crude sometime after April 1.

California and New Mexico Appeal Elk Hills Case

WASHINGTON, D. C. — Atty. Gen. Earl Warren of California has filed a petition requesting the U. S. Supreme Court to decide whether the federal Government is entitled to title to land in the Elk Hills, California, oil field. He was joined by Atty. Gen. Filo M. Sedillo of New Mexico in asking the court to reconsider its refusal on January 29 to review a Circuit Court opinion awarding title to the Government.

The brief said the land had been accepted for the support of the California school system and that a number of other western states were likewise affected.

"May we respectfully urge," the petition said, "that the court consider the interest of some of the newer states whose public-school systems depend upon the sale of school lands as a major source of school income. These lands can only be sold if, in the opinion of the legal profession advising title companies, the title to them is marketable."

Natural-Gas News

Consolidation of Companies By Manufacturers Light

COLUMBUS, Ohio.—Manufacturers Light & Heat Co. of Pittsburgh has applied to the Ohio Utilities Commission for authority to consolidate with Manufacturers Gas Co., Pennsylvania Fuel Supply Co., Greensboro Gas Co., and Natural Gas Co. of West Virginia. A similar application was made December 29 in Pennsylvania.

The companies would be merged into a new Manufacturers Light & Heat Co., which would issue 581,660 shares of $50 par value stock and buy all property of Natural Gas Co. of West Virginia, Gettysburg Gas Corp., Fayette County Gas Co., and Cumberland and Allegheny Gas Co.

Manufacturers Light & Heat and Natural Gas Co. of West Virginia are the only firms operating in Ohio. All companies that would be affected in the merger are subsidiaries of Columbia Gas & Electric Corp.

A.G.E.M. Annual Convention In French Lick, Ind.

The 1940 annual convention of the Association of Gas Appliance and Equipment Manufacturers will be held at the French Lick Springs Hotel in French Lick, Ind., May 20 through May 22, it is announced by Frank H. Adams, president of the association.

Childress Rejects Compromise: Hearing Set for April 2

CHILDRESS, Tex.—A compromise rate on gas offered the city of Childress by the United Gas Corp. has been rejected by the city council.

The corporation offered two rates, one for $1 for the first 1,000 cu. ft. and 55 cents for each additional 1,000 cu. ft., and another for $1 for the first 500 cu. ft. and 50 cents for each additional 1,000 cu. ft.

Eighteen months ago the council passed an ordinance reducing the rate from 67½ cents per 1,000 cu. ft. to 50 cents. The company appealed to the Railroad Commission, and a hearing has been set for April 2.

Peoples Gas Light Seeks Increase in Rates

An increase in rates is the only method of coping with the inadequacy of earnings from utility activities of Peoples Gas Light & Coke Co., George A. Ranney, chairman of the board of directors, asserted at the annual meeting of stockholders.

Turner Valley Gas System

TURNER VALLEY, Alta. — Valley Gas Co. has installed lines and meters for distribution of low-pressure scrubbed gas to the community of Turner Valley. The distribution of raw gas under unregulated pressure is being discontinued from March 1.

Hearing in Bradford Gas Rate Case Postponed

HARRISBURG, Pa. — The Public Utility Commission's investigation of rates of United Natural Gas Co., Bradford, and a half-dozen other gas utilities, has been delayed indefinitely by litigation over rates of the Peoples Natural Gas Co., Pittsburgh.

Peoples Natural recently was refused a proposed increase, and a superior court appeal may follow.

Pipe-Line Activity

New Office Building for Union Producing Co.

This $750,000 air-conditioned office building is the new home of Union Producing Co., United Gas Pipe Line Co., and United Oil Pipe Line Co. in Shreveport, La.

Headquarters for the three affiliated companies were established in the new building, following transfer of about 250 employes from the companies' former Houston, Tex., office. The new building will also incorporate the division offices which were moved from downtown Shreveport.

The building of brick, tile, and steel is finished on the interior with marble. Office walls are of soundproof, movable steel. The building will also house a modern gas-testing laboratory.

Southern Union Gas Co. Completes 31-Mile Line

Southern Union Gas Co. has completed extension of its lines to three communities, Belen, Los Lunas and Isleta, N. M., near Albuquerque. The completion was celebrated by a formal opening with addresses by New Mexico's Lieut. Gov. James M. Murray; Mayor Fred Huning, Los Lunas; Mayor M. H. Tate, Belen; Mayor Clyde Tingley, Albuquerque; J. R. Cole, vice president of New Mexico Gas Co. at Santa Fe; and Albert Sidney Johnson, president of the New Mexico Gas Co. at Dallas, Tex.

In spite of extreme cold weather, the laying of the 31-mile 5½-in. line between Albuquerque and Belen was begun on January 1. Within this 31-mile stretch, the line crosses more than 100 roads and 32 main irrigation ditches. Fredell Construction Co. handled the general construction of the main line and Pipe Line Service Corp. the enameling of the pipe.

Southern Union Gas System, 10 years ago, began construction of the transmission line of the New Mexico Gas Co. (then Albuquerque Natural Gas Co.) which line has the distinction of being the first natural-gas line to cross the Continental Divide. Today this line provides approximately 12,000 consumers in the towns of Farmington, Albuquerque, Bernalillo and Santa Fe with natural gas.

El Paso Natural Gas Shows Film of Operations

El Paso Natural Gas Co., pipe line company for southern New Mexico, West Texas, and Arizona, is now showing a moving picture explaining its complete operations to distributors, employes, and customers throughout Arizona.

The picture, titled "Bringing Natural Gas to Cityville," is in technicolor and action is explained with sound. The action begins in the producing field of Jal, New Mexico, with drilling of the wells. Bringing the gas from the well, reducing the pressure and the processes of removing the sulfur and dehydration of the gas are shown.

The film moves down the pipe line showing the patrolling of the line, repairing and laying of the pipe and delivering the gas to the distributing companies. The operations of many large industries of the Southwest are shown using natural gas to accomplish their heating needs. The six booster stations of the system are shown with an explanation how the pressure of the fuel is raised to carry the gas to the next booster station.

All operations of the system from Jal to Ajo, Ariz., 676 miles apart, are shown and explained. The company has nearly 1,500 miles of pipe line in this territory.

Surveys Being Made for Lawrence Gasoline Line

Surveyors are at work on the Lawrence Pipe Line Co.'s 53-mile 6-in. gasoline pipe line which Indian Refining Co. is building from its refinery at Lawrenceville, Ill., to Evansville, Ind., to serve as an outlet for points along the Ohio and Mississippi rivers.

The line, which is to be ready about June, will cost approximately $600,000 and will carry about 3,500,000 bbl. a year. A terminal will be constructed at Evansville, from which the fuel will be transported by barge to Cincinnati and Pittsburgh and as far as St. Louis.

Construction Is Proceeding On Sohio Pipe Line

CLEVELAND, Ohio.—Construction has been started at Lima, Ohio, on the Sohio Pipe Line Co.'s 12-in. crude-oil line from Hagerstown, Ind., to Lima. The line will connect with a line from Stoy, Ill., to Hagerstown. At Lima it will tie into the company's refinery and the Buckeye Pipe Line tank farm. Booster station will be located at Hagerstown.

One of the sections is being built by Sheehan Pipe Line Construction Co. which has been working since February 1 further west on the line. Truman-Smith Construction Co. has a contract for half the work. It also has been working on western sections of the line. Total length of the line is to be 240 miles.

Continental Oil Co. Revamps Corpus Christi System

Following the purchase of facilities of Crude Oil Pipe Line Co. which included a marine terminal at Corpus Christi, Tex., Continental Oil Co. has been rebuilding the system extensively. In carrying out this program, contracted by Latex Construction Co., and still in the process of construction, Continental has replaced 53 miles of 5½-in. with 8-in. pipe between San Diego and Corpus Christi, and 10 miles of 4½-in. with 5½-in. from Baquette to the Clara Driscoll field. Between San Diego and Continental's Driscoll ranch property 26 miles have been laid. Between Alice station and a point north of the Alfred field 6½ miles has just been completed. Other work under way is the laying of 9 miles of 5½-in. from Alice to Magnolia City field, the laying of 7½ miles of 4-in. in the Seven Sisters field and 7½ miles of 4-in. in the Lopez field.

At San Diego, the capacity of the pump station has been enlarged by the installation of a six-cylinder 485-hp. diesel engine driving a 4 by 6-in. six-stage centrifugal pump.

North Texas Discovery Given Pipe-Line Outlet

WICHITA FALLS, Tex.—Contract for the laying of a 7-mile, 6-in. pipe line from its new discovery near Bonita to a point near Nocona, in Montague County, was awarded Monarch Construction Co. of Pampa, Tex., last week by Sinclair Refining Co. At Nocona the line will join the company's 8-in. line from Oklahoma to Fort Worth and the Gulf Coast. A 5,000-bbl. booster station is to be installed at the field.

Extension to Paden Field

Expenditure of $50,000 for extension of gas lines into the Paden, Oklahoma, fields to assure Bristow and Drumright adequate gas supplies was authorized by Oklahoma Utilities Co.

Natural Gasoline

California Natural-Gasoline Production Slightly Less

LOS ANGELES, Calif.—The production of natural gasoline in California decreased slightly in January, according to a report of the Bureau of Mines. Production was 923,675 gal. less than in December.

NATURAL-GASOLINE-PLANT OPERATIONS

	Gas treated (M.c.f.)	Natural gasoline produced (gal.)
San Joaquin Valley:		
Belridge	4,709,775	2,830,004
Elk Hills	124,300	134,324
Kettleman Hills	8,317,468	10,613,373
Midway-Sunset	958,480	1,983,491
Mountain View	315,795	367,782
Miscellaneous	1,104,258	597,498
Coastal district:		
Elwood	389,609	515,075
Rincon	159,130	208,150
Santa Maria	145,847	411,585
Ventura Avenue	3,804,587	5,429,776
Miscellaneous	490,592	430,390
Los Angeles Basin:		
Brea-Olinda-Coyote	405,931	1,351,958
Dominguez	1,365,778	2,075,304
El Segundo	49,304	134,686
Huntington Beach	792,339	2,671,807
Inglewood	268,510	348,218
Long Beach	2,442,751	7,275,953
Montebello	3,319,775	1,700,368
Richfield	288,742	580,716
Rosecrans	1,004,238	1,248,316
Santa Fe Springs	1,385,326	4,785,393
Seal Beach	379,612	536,714
Torrance	314,027	929,795
Miscellaneous	1,297,348	2,361,778
Total (all fields)	31,833,522	49,522,454

DISTRIBUTION

	(Gal.)	(Gal.)
Stocks beginning of month	3,175,440	
Production during month	49,522,454	
Delivered to refineries		48,868,086
Delivered to jobbers, brokers, or blenders		501,507
Blended at plants for production of motor fuel		181,056
Losses		44,892
Stocks end of month		3,102,353
Total	52,697,894	52,697,894
Liquefied pet. gas prod.	3,305,712 gal.	= 78,707 bbl.
Motor fuel produced	3,958 gal.	= 94 bbl.

DISTRIBUTION OF LIQUEFIED PETROLEUM GASES

(Thousands of gallons)

Number of producing companies	13	
Stocks beginning of month		1,690
Production during month:		
At natural-gas plants	3,306	
At refineries from natural gas	1,608	
At refineries from cracked gas	1,665	
Total production		6,579
Total		8,269
Total demand		6,346
Losses		42
Stocks end of month		1,881
Total		8,269

Illinois Geologists Hear Levorsen

A. I. Levorsen, independent geologist and former president of the A.A.P.G., addressed more than 125 geologists at a meeting of the Illinois Geological Society at Mattoon March 1. He pointed out that methods of prospecting for oil had changed several times over the past 30 years and that they were continuing to change. He indicated conditions appeared to be favorable for stratigraphic trapping of oil along several major geological features in Illinois and Indiana.

Melville Fuller, chief geologist of the eastern division of Carter Oil Co. and newly elected president of the Illinois Geological Society, was chairman of the meeting. Verner Jones, chief geologist for Magnolia Petroleum Co. in Illinois and secretary-treasurer of the Illinois group, reported on the progress of arrangements for the A.A.P.G. meeting in Chicago.

PROGRAMS AND MEETINGS

Southwestern District A.P.I. Plans for Houston Session

Preliminary plans have been formulated for the handling of the meeting of the southwestern district of the American Petroleum Institute's Division of Production, to be held in Houston on March 28 and 29.

Paul Hubbard, assistant superintendent, Gulf Oil Corp., chairman of the district, has announced the appointment of chairmen for the various local committees that will handle arrangements.

General chairman of arrangements is T. E. Swigart, vice president of Shell Oil Co., Inc. An interesting entertainment program is planned in addition to the four business sessions. Working under Mr. Swigart's supervision will be several committees.

Gordon Richmond, sales manager, Hughes Tool Co., heads the finance and entertainment group, with Jimmy Creed, of Halliburton Oil Well Cementing Co., assisting in obtaining entertainers.

J. U. Teague, general superintendent, Hogg Oil Co., has been named head of the registration committee.

A.A.P.G. Silver Anniversary Will Honor Illinois

An army of geologists and other technical experts identified with the continuous search for more and more oil will gather in Chicago, nearly 3,000 strong, on April 10, 11, and 12, to attend the silver anniversary meeting of the American Association of Petroleum Geologists.

Members of the association, geology professors, and independent delegates from nearly every state in the union, and from a score of foreign countries will assemble to hear about recent findings in oil exploration and development, and to acquire new information that geologists have secured during the past year regarding petroleum possibilities and geologic conditions.

Many geologists will be attracted by the opportunity of gaining first-hand knowledge of the situation in Illinois.

The 3-day meeting will feature "New Ideas in Petroleum Exploration," with technical papers by leading research geologists, and displays of new laboratory and field apparatus, explosives, chemicals, maps, and other materials that enter into the complicated picture of locating and developing modern oil fields.

The Chicago gathering will be the first meeting of its kind in Illinois history.

Revised Preliminary Program For Mid-Continent Meeting

The preliminary program for the spring meeting of the Mid-Continent district, Division of Production, American Petroleum Institute, at the Allis Hotel, Wichita, Kans., March 14-15, follows:

Thursday, March 14

9:30 a.m. Chairman: H. E. Miller, Lario Oil & Gas Co., Wichita, Kans.; cochairman: A. S. Ritchie, McPherson Drilling Co., Wichita, Kans.

Address of Welcome, R. J. Pryor, Pryor & Lockhart, Inc., Wichita, Kans.

Response, C. H. Keplinger (chairman of the Mid-Continent district).

Report from Mid-Continent district chapters.

"Oil Meters of the Positive Displacement Type," L. R. Van Arsdale, Pittsburgh Equitable Meter Co., Tulsa. Discussion by: E. O. Bennett, Continental Oil Co., Ponca City, Okla., and R. E. Heithecker, Bureau of Mines, Bartlesville, Okla.

"Pressure Maintenance at Cunningham," Colin Rae, Skelly Oil Co., Tulsa. Discussion.

12:15 p.m. Luncheon: Chairman: J. A. Vickers, Vickers Petroleum Co., Wichita, Kans.

2:00 p.m. Chairman: T. C. Johnson, independent operator, Wichita, Kans.; cochairman: R. C. Kay, independent operator, Amarillo, Tex.

"Kansas Oil Problems," Payne Ratner, governor of Kansas.

"Foremanship," H. E. Zoller, Derby Oil Co., Wichita, Kans. Discussion by: Laurence Parker, state supervisor, Trade and Industrial Education, Pittsburg, Kans., and G. Dickey, independent operator, Wichita, Kans.

"Larger Gas Fields in Kansas," J. H. Page, Kansas State Corporation Commission, Wichita, Kans. Discussion by: C. E. Brock, Kansas Power & Light Co., Salina, Kans., and J. Fields, Morgan, Cobb, and Flynn, Hutchinson, Kans.

6:00 p.m. Stag dinner and entertainment at Cardwell Manufacturing Co. plant.

Friday, March 15

9:30 a.m. Chairman: T. J. Hamilton, Mid-Continent Pump Supply Corp., Oklahoma City; cochairman: H. R. Goodpaster, Kerlyn Oil Co., Oklahoma City.

"Pumping Problems," D. O. Johnson, S. M. Jones Co., Tulsa. Discussion by: L. H. Thawley, Phillips Petroleum Co., Great Bend, Kans., and L. Wilkinson, Stanolind Oil & Gas Co., Ellinwood, Kans.

"Practical Aspects of Water Flooding in Eastern Oklahoma and Kansas," L. C. Converse, Max B. Miller & Co., Inc., Tulsa. Discussion by: J. Powell, Brundred Oil Co., Garnett, Kans., and W. S. Walls, Phillips Petroleum Co., Bartlesville, Okla.

"Search for Oil," D. Silverman, Stanolind Oil & Gas Co., Tulsa.

2:00 p.m. Chairman: C. A. Daniels, Phillips Petroleum Co., Amarillo, Tex.; cochairman: H. W. Ladd, Stanolind Oil & Gas Co., Tulsa.

"Oil Financing," A. W. Kincaid, president, Fourth National Bank, Wichita, Kans.

"The Time Factor in Oil-Well Drilling," W. C. Bednar, University of Oklahoma. Discussion by: C. D. Miller, Barnsdall Oil Co., Tulsa, and J. F. Freeman, Skelly Oil Co., Tulsa.

"Recent Developments and Methods of Plugging Off Bottom-Hole Water in the Arbuckle-Lime Horizon," J. N. Miles, Cities Service Oil Co., Great Bend, Kans. Discussion by: F. W. Shelton, Phillips Petroleum Co., Great Bend, Kans.; F. Malonee, Magnolia Petroleum Co., Wichita, Kans., and G. F. Siebert, Halliburton Oil Well Cementing Co., Great Bend, Kans.

"Keeping Pace With Progress," a moving picture sponsored by S. F. Greeley, Lone Star Cement Co., Wichita, Kans.

7:00 p.m. Annual dinner, Allis Hotel.

Ark-La-Tex A.P.I. Chapter

The Ark-La-Tex chapter of the A.P.I. will hold a meeting in Shreveport, La., March 20, with the general subject for discussion slated to be oil-field engines. A complete program will be announced shortly.

CALENDAR OF EVENTS

March

WESTERN PETROLEUM REFINERS ASSOCIATION, Ark-La-Tex division, El Dorado, Ark., Mar. 8.

AMERICAN PETROLEUM INSTITUTE, Division of Production, Ark-La-Tex Chapter, Shreveport, La., Mar. 20.

AMERICAN PETROLEUM INSTITUTE, Mid-Continent district, Division of Production, Wichita, Kans., March 14-15.

AMERICAN PETROLEUM INSTITUTE, Pacific Coast district, Los Angeles, Calif., March 19.

AMERICAN PETROLEUM INSTITUTE, Southwestern district, Division of Production, Houston, Tex., March 28-29.

WESTERN PETROLEUM REFINERS ASSCIATION, annual meeting, Allis Hotel, Wichita, Kans., March 31-April 2.

April

AMERICAN CHEMICAL SOCIETY, Cincinnati, Ohio, April 8-12.

SOCIETY OF EXPLORATION GEOPHYSICISTS annual meeting, Stevens Hotel, Chicago, April 9-11.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, annual meeting, Stevens Hotel, Chicago, April 10-12.

SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS, annual meeting, Stevens Hotel, Chicago, April 11.

AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, Columbus, Ohio, April 11-12.

SOUTHWESTERN GAS-MEASUREMENT SHORT COURSE, University of Oklahoma, Norman, April 16-18.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 18-19.

May

PETROLEUM INDUSTRY ELECTRICAL ASSOCIATION, Dallas, Tex., May 1-3.

NATURAL GAS SECTION, AMERICAN GAS ASSOCIATION, thirty-fifth annual meeting, Houston, Tex., Rice Hotel, May 6-10.

NATURAL GASOLINE ASSOCIATION OF AMERICA, annual convention, Hotel Tulsa, Tulsa, May 15-17.

INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, May 18-25.

AMERICAN PETROLEUM INSTITUTE, midyear meeting, Fort Worth, Tex., May 27-31.

NATIONAL OIL SCOUTS AND LAND MEN'S ASSOCIATION, annual convention, Hot Springs, Ark., May 30-June 1.

June

ILLINOIS-INDIANA PETROLEUM CONFERENCE, eighth annual meeting, Robinson, Ill., June 1.

AMERICAN SOCIETY FOR TESTING MATERIALS, Chalfonte-Haddon Hall, Atlantic City, N. J., June 24-28.

September

NATIONAL PETROLEUM ASSOCIATION, thirty-eighth annual meeting, Hotel Traymore, Atlantic City, N. J., September 18-20.

October

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 7-11.

November

AMERICAN PETROLEUM INSTITUTE, twenty-first annual meeting, Stevens Hotel, Chicago, November 11-15.

All drilling equipment, including engines, boilers, draw works, and even the derrick itself are transported by a large trailer developed by Shell Oil Co., Inc., for use in the Ten Section field, Kern County, California. This "Frankenstein" vehicle is described on Page 34

ENGINEERING & OPERATING

MARCH 7, 1940

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Results of test operations conducted at the important gas-condensate reserve in the Cotton Valley area of Louisiana are reviewed for the purpose of directing attention to significant data.

FRANKENSTEIN TRAILER FOR HEAVY HAULING
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USE OF FILL-UP LINE DECREASES BLOWOUTS
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Causes of blowouts are discussed in connection with practices which serve to prevent them.

MARITIME AND LAND OPERATIONS CONTRASTED IN CHALKLEY FIELD
By Neil Williams ..... Page 40
Two major companies are developing properties in the same area of Louisiana. Transportation problems presented engineering difficulties which have been solved by each organization in a distinctly different way.

SOME UNSOLVED DEEP-WELL PROBLEMS UNDER PRORATION
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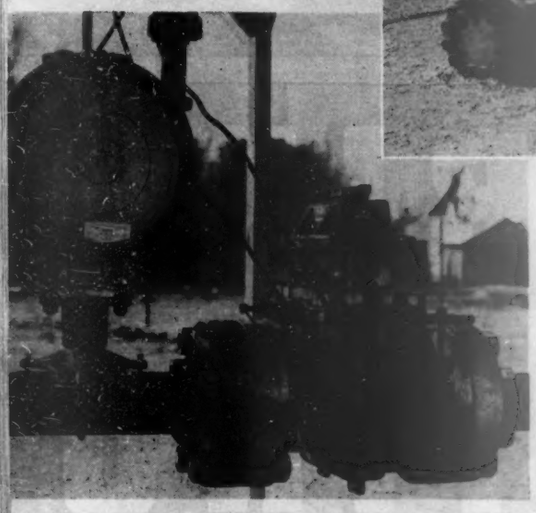
Right: Heavy equipment is used throughout on the high-pressure gas lines. Both the suction and discharge lines between manifolds have manual valves, and the discharge lines are equipped with check valves. The line in the background goes to the input well. At the right are the air filters for the compressor

Below: A careful check of gas volume between the first and second separation stages was made with the aid of this continuous recording orifice meter



Experimental Plant Proves Recycling

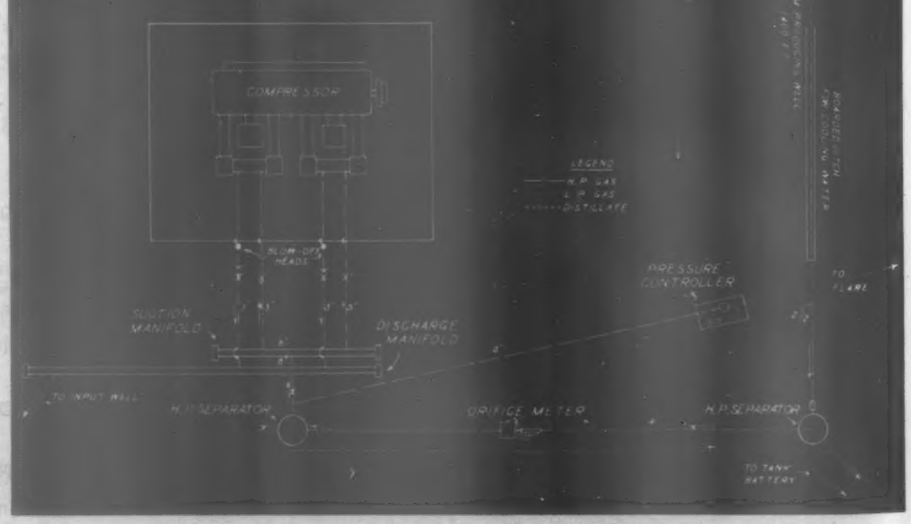
By GEORGE WEBER

THE Cotton Valley field of Webster Parish, North Louisiana, comprises one of the outstanding gas-condensate reserves thus far discovered. Its potentialities for the adaptation of recycling and pressure maintenance have been widely recognized and plans are under consideration for application of this principle to the field's production.

To that end the Cotton Valley Engineering Committee has made extensive field tests. An experimental recycling plant has been installed and operated in the field to add to the data required for formulating a field-wide recycling project. This plant consists of two high-pressure separators, a 600-hp. compressor and high-pressure lines connecting the unit to two producing wells and one injection well. Erected mainly for injection tests, the design did not incorporate all features of a typical large-scale recycling unit.

The high-pressure gas-condensate production at Cotton Valley is from the Bodcaw sand of the lower Marine formation, occurring at an average depth of 8,100 ft. This sand body shows unusual uniformity in porosity and permeability throughout its 12,000 acres of gas-condensate production. The field structure is a regular anticline, further simplifying the determination of field-wide recycling plans. Productive of gas and condensate over the major portion of the reservoir, the sand on its extreme flanks contains oil.

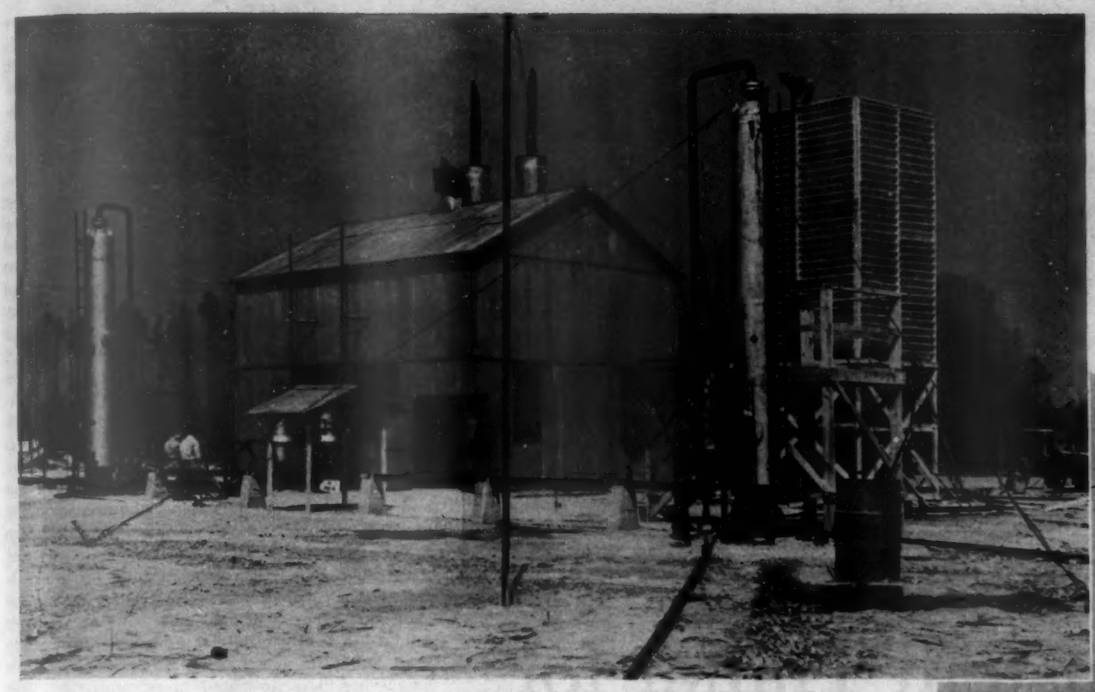
Yield of the 62-gravity condensate under the separation methods currently employed in the field averages over 3 g.p.m., one of the highest condensate yields found in high-pressure gas fields of its type. This, in addition to its extent, makes Cotton Valley a major prospect for recycling operations.



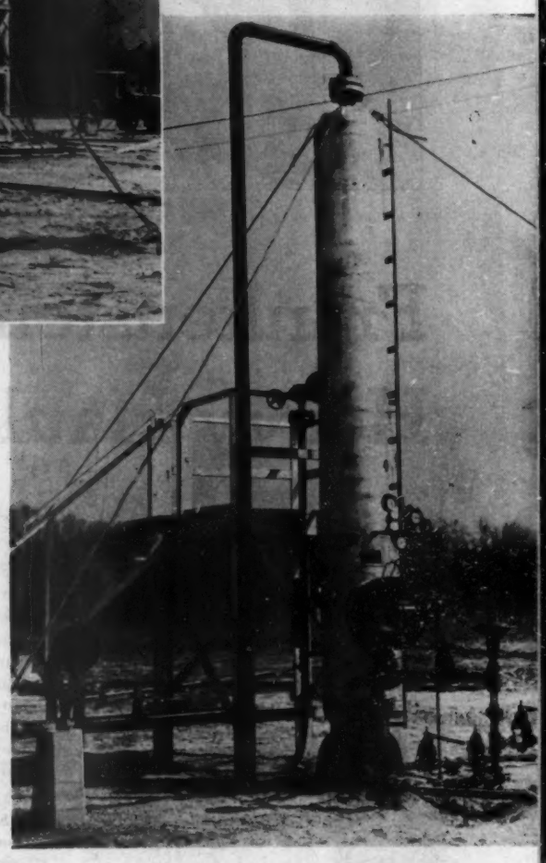
General plan of the experimental recycling plant at Cotton Valley. The high-pressure gas enters the plant at the right and the gas overhead from the two separators in series, is recompressed for input to the well at the left. A flare line with a pressure control connects between the second separator and the suction manifold to the compressor

The Injection Experiment

The basic purpose of the injection experiment was to determine the return volume-pressure relationship in a test well in order to prove the



Left: General view of the plant with first-stage separator on the right, second separator on the left and compressor house in the background. Gas was compressed to a sufficient pressure to input back to the Bodcaw sand in a 600-hp. angle-type compressor



Below: The first separation stage of high-pressure gas from condensate takes place in this high-pressure separator. Condensate was knocked out of the high-pressure gas in two reduction stages in the two separators

at Cotton Valley to Be Feasible

engineering and economic feasibilities of the project from the standpoint of equipment requirements. Naturally enough, other problems arose and, wherever it was deemed to be of importance, data were recorded and tests were made on these allied problems.

Some features of the plant construction were temporary, but, for the most part, very heavy and rugged material and equipment were employed because of the very nature of the high-pressure operation contemplated. Three wells were chosen relatively close to the top of the geological structure, two for production and one for injection, the latter well leaving 42 ft. of Bodcaw sand exposed. One 600-hp. compressor of direct-driven angle type was installed and equipped with water pumps, cooling tower, etc., for its operation. Two 3,188-lb.-test separators were used in the hookup, together with all accessory equipment such as regulators, meters, check valves, gate valves, cut-off switches, tanks, etc.

The operation of this plant extended over a 29-day period with several shutdowns for experimental reasons and minor repairs. The separation of the fluid from the gas was effected in the separators operating at from 2,100 lb. to 1,600 lb., this gas at those pressures going directly to the suction of the compressor. Daily rates of injection and the corresponding surface pressure on the injection well enlarged progressively, as noted:

Number of days	Rate of injection (cu. ft. per day)	Surface pressure of injection well, lb.
		*2,740
4	4,000,000	2,940
5	10,000,000	3,050
6	14,000,000	3,060
13	17,000,000	3,600
		*2,960

*Static pressure.

The vast increase in the injection well's surface pressure from static condition to the 4,000,000-cu.-ft. per day rate can be explained as resulting from the difference in densities of the column of gas in the well after the dry gas (0.6 g.p.m.) displaced the original virgin gas content of the well bore (3.75 g.p.m.). This is again evidenced by the return to a higher static pressure at the termination of injection.

Relative Densities

Productivity curves (of the injection well) calculated from injection were higher than tests made on production; i.e., the well could take gas more readily than it could produce it. The relative densities of the dry-injected gas and the wet-produced gas can possibly account for some of this difference.

Due to supercompressibility of the gas at these high pressures (deviation from the perfect gas laws), approximately 12 per cent more gas was passed through the compressors than was originally anticipated.

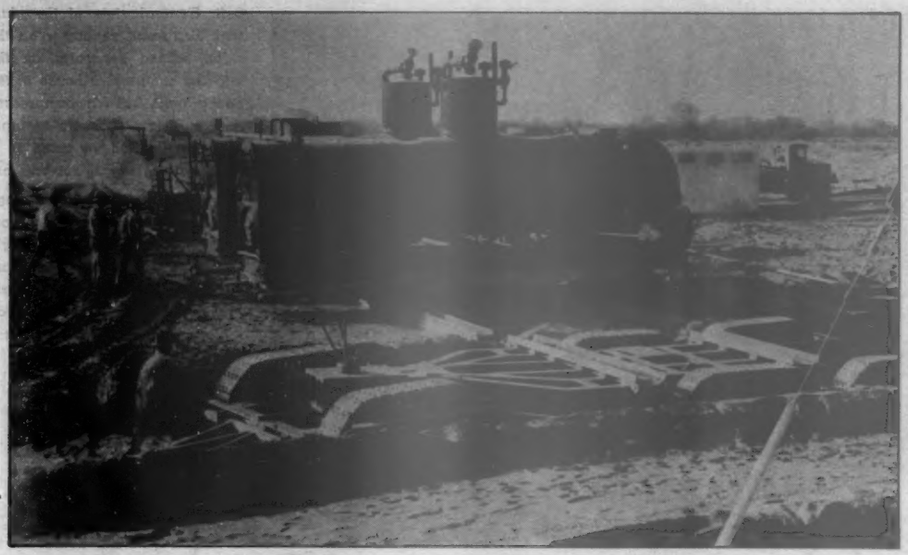
Production of the dry gas from the injection well has taken place since conclusion of the experiment with the following results:

Month—	Gas production (cu. ft.)	Gas-distillate ratio (cu. ft./bbl.)	Cumulative gas prod. (cu. ft.)
June, 1939	26,260,000	110,200	26,260,000
August	14,835,000	64,600	41,095,000
September	14,750,000	...	55,845,000
October	14,565,000	56,000	70,410,000
November	13,825,000	45,000	84,235,000
December	12,155,000	30,000	96,390,000

The cumulative injected gas was 350,291,000 and the normal field gas-distillate ratios are approximately 12,000 cu. ft. per barrel, indicating that although only about 27 per cent of the total volume injected has been withdrawn, the distillate content of this dry gas has increased. This apparently indicates that either one or a combination of three things has taken place; namely, movement of a portion of reservoir gas towards this well, a mixing of reservoir gas with injected gas, or a mixing of reservoir liquids with injected gas.

Conclusions reached by this experimental procedure were to the effect that (1) pressures required for injection are of such magnitude as to be economical, (2) design of a production-scale plant should be governed by the type and quantity of a readily marketable product, (3) considering the apparently high supercompressibility of the gas in question, the cost of compression equipment will be well within the original estimates.

In summarizing, it may be said that this test operation has served its purpose by determining the volume-pressure relationship in a test well. Using data furnished by this test, it has been possible to estimate equipment requirements and to define engineering and economic features which are of vital importance in planning a project for developing a gas-condensate reserve.



A bulldozer is used to pull this two-boiler unit onto the trailer. Within 4 hours the boilers can be moved and set up to supply steam at the new location

Frankenstein Trailer for Heavy Hauling

By L. P. STOCKMAN

SHELL Oil Co., Inc., discoverer of the Ten Section field of Kern County, California, has developed an efficient method of moving rigs, engine house, including drilling engine and hoist, as well as boilers from one location to another by means of a specially constructed trailer. In keeping with a policy adopted more than a year ago, all drilling equipment, including the derrick, is moved from a well as soon as it has been completed in the Ten Section field. This practice is also used in other new fields although in some cases the skeleton derrick is retained over the producing well. In order to facilitate the moving of derrick and other drilling equipment to new locations, C. A. Yeatman, division engineer of Shell's San Joaquin division, some time ago designed what has become known in the field as a Frankenstein trailer. Details were developed with the idea of using equipment already on hand which had been relegated to the junk pile as obsolete. Thus an important circumstance was the existence of several track-laying type wheels which had formerly been a part of some obsolete drilling units. Because each wheel-set could handle a load of 10 tons their adaptation to transporting heavy loads over adverse ground conditions appeared ideal and they were used to form the nucleus about which the trailer was designed.

Loading engine house including drilling engine and hoist onto trailer for removal to new location. Both pictures illustrate Shell operations at Ten Section field, California

The trailer itself is made up of a bed, two rear-wheel assemblies and a front-wheel assembly. In designing the unit, special care was taken to permit an equalization of loading on all wheels regardless of the roughness of the terrain over which the trailer would be drawn. The unit required to move all of the equipment from one drilling location to another cost less than $1,500 which, of course, does not include the trucks and tractors required to load and tow it around. Usually a derrick in the Ten Section field is moved from 1,000 ft. to 3,000 ft. at the rate of about 2 miles an hour. The derricks used are 136 ft. high with a 26-ft. base and are moved without removing underpinning, finger board, tong lines, traveling or crown block. However, the derrick is partially stripped. The engine house, pumps, mud-suction tanks and the mud ditch are taken out and moved separately leaving about 40 tons of upright steel ready for the movers. The first step in the operation is to jack up the derrick and get the trailer under it. This is done with an A-frame truck which raises one corner at a time about 4 ft. where it is held with cribbing. It takes 2 hours to load the derrick and a little longer to reset it in the new location, the foundation for which has been prepared in advance. In some areas moving is done without a trailer by simply dragging derrick and equipment to the new location. This procedure is possible and practicable where the soil is wet and forms a slick gumbo but the sand and vegetation of the soil in the San Joaquin basin, however, will not permit dragging heavy loads as has been demonstrated. Therefore, the trailer under these circumstances provides the only means of accomplishing the desired moves.

Moving Engine-House Assembly

Moving the engine-house assembly from one location to another is less spectacular but nevertheless as exacting. The combined weight of this unitized equipment is about 50 tons, which includes the draw works complete with drilling line spooled on the drum; drilling engine with chain and guards and all steam piping; sand reel with line; draw works and engine substructure; the rotary-engine house; and a number of smaller items. This equipment is moved at a speed of about 3 miles an hour. In loading the engine-house assembly onto the trailer a bulldozer is used to cut a trench sufficiently large to run the trailer into it. The engine-house unit is then skidded onto the trailer with the bulldozer, bolted down, and towed away with a truck or tractor, depending upon whether the haul is over rough country or an oil road. Arriving at the new location the unit is unloaded in much the same way that it was loaded, with the one exception that it is not necessary to excavate a trench for the trailer.

The customary four boilers which furnish steam for drilling are moved in units of two. When a well is completed, two of the boilers are disconnected from the boiler plant and while still warm are skidded to the new location, connected up and are then ready to furnish steam for operating at the next well in a period of about 4 hours. The remaining two boilers are moved as a unit when operations at the old location are complete. Thus steam is available when needed at both the completed well and the new drilling site when required. During the past year that Shell has been moving its heavy drilling equipment not a single accident has been reported. Where it formerly took from 5 to 10 days to move from one drilling site to another it is now a matter of hours.

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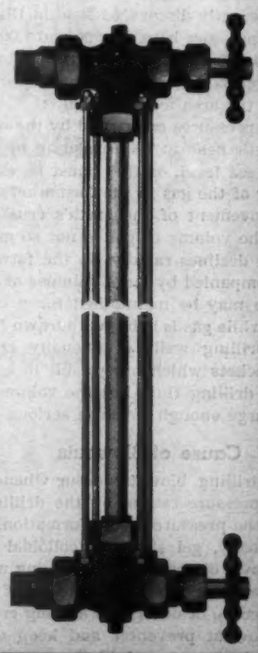

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PENBERTHY PRODUCTS

Typical blowout-preventer installation

Use of Fill-Up Line Decreases Blowouts

By HARRY F. SIMONS

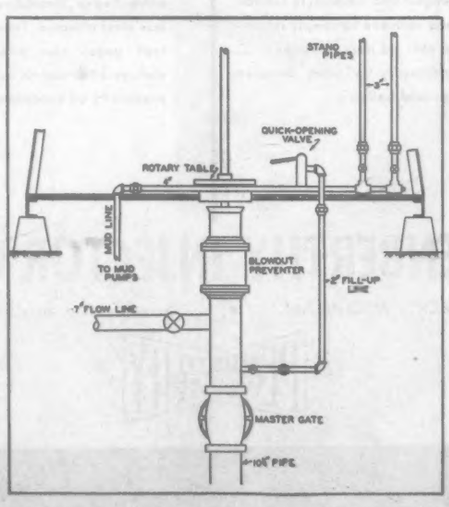
DRILLING wells often encounter pressures in excess of those expected and in such cases they must be equipped to prevent blowouts or be equipped to control them in case high pressures develop. A recently discovered field in Illinois has a formation pressure between 900 and 1,000 lb. per sq. in. at a depth of 2,200 ft. The normal pressure should be approximately 800 lb. per sq. in. as the elevation in the area averages 400 ft.

Abnormal pressures are caused by the source of the hydrostatic head in the formation being higher than the sea level, or they must be caused by the trapping of the gas in the formation during a period of movement of the earth's crust. In the latter case the volume of gas is not so great and the pressure declines rapidly. In the former case is often accompanied by large volumes of gas and the pressure may be maintained for a considerable period while gas is being withdrawn from the reservoir. Drilling wells occasionally encounter small gas pockets which may result in a disturbance of the drilling fluid but the volume of the gas is not large enough to cause serious damage.

Cause of Blowouts

In rotary drilling, blowouts occur whenever the hydrostatic pressure caused by the drilling fluid is less than the pressure in the formation. Proper weight, viscosity, gel strength, colloidal content and the removal of gas from the drilling mud will generally prevent a blowout. However, if a blowout is threatening or occurs the drilling crews can close the blowout preventer and keep the well under control. A cause of blowouts, frequently overlooked, is the shortening of the fluid column by withdrawal of the drill pipe from the hole.

A large number of blowouts have occurred while the drill pipe was being pulled from the hole and this has led some observers to credit the mishap to the "piston effect" of the drill pipe. Actually, this piston effect is quite rare and it would result in swabbing the hole dry. When it does happen there are more things amiss than the encountering of a high gas pressure and the drill pipe is in acute danger of being stuck in the hole. The piston effect, when it does exist, is due to the massing of drill cuttings on the bit and in case the pipe became stuck it would be impossible to obtain circulation. This condition would be indicated by stalling of the pipe while drilling and by dragging of the pipe, an increase in the reading on the weight indicator, drilling fluid coming out of the hole as the pipe is pulled and, when a stand of pipe was unscrewed, the pipe in the hole would also have no fluid in it. Most drillers, on seeing this, would establish circulation and try to get the mass of cuttings off of the bit before proceeding with the pulling of the pipe.



Schematic drawing showing location of fill-up line and control valves

The fluid level in the hole does fall while the pipe is being pulled. The amount it falls will be proportional to the wall thickness and length of the pipe withdrawn plus the volume formerly occupied by the tool joints and the mud lost by unscrewing stands still containing some mud. Wall thickness of 4½-in. 16-lb. drill pipe is 0.337 in. and in an 8¾-in. hole, the withdrawal of each 90-ft. stand, including tool joints and upsets, will result in a 6.678-ft. loss in hydrostatic head. During the pulling of 15 stands from the hole the loss in hydrostatic head would amount to approximately 100 ft., and a loss in fluid pressure of 78 lb. per sq. in.

Prevention of Blowouts

The margin of safety is often not very large when drilling into a formation having an abnormal gas pressure and the loss of 100 ft. of hydrostatic head could easily result in a blowout. The obvious method of preventing such blowouts is to keep the hole filled with drilling fluid and in many cases where a blowout occurred it was later indicated that the hole was not being filled as the pipe was withdrawn due to this procedure adding several minutes to the time consumed in making a trip.

Most drilling contractors have equipment for filling the hole while the pipe is being pulled. This consists of a mud connection welded in the surface casing, or last casing string run in the hole, below the blowout preventer. The connections required include a 2-in. nipple welded into the casing in the hole, a 2-in. high-pressure valve, another 2-in. nipple, a union and then the pipe and fittings necessary to connect to the mud line. The mud-line connection is made in front of the standpipe by installing a 2-in. nipple and a quick-opening high-pressure valve. The valve on the casing remains open at all times except in emergencies and by closing the standpipe valve, opening the quick-opening valve and starting the pump, the hole can be filled easily.

Reason for making the connection in the manner described above is to have as few chances for leaks as possible before a positive closing of the well can be obtained by shutting the valve on the casing. Rigging up of high-pressure pumps to kill the well is a simple matter if a 2-in. tee is used in place of an ell at several points in the fill-up line.

If some drilling crews wish to make a trip in a hurry they will not keep the pipe filled as this makes the mud hard to "chase" from the pipe. In open pipe it would be reasonable to expect the fluid level inside to be equal to that outside but due to the viscosity of the fluid it does not equalize rapidly and when the pipe is elevated the fluid level inside the pipe may be 30 to 40 ft. above the derrick floor. Elevating the pipe, then dropping it and stopping it suddenly, will result in the mud being forced out through the bit at the bottom of the pipe. As more pipe is pulled from the hole, the fluid level is lowered and the inside of the pipe will be dry when it comes through the rotary table.

By proper manipulation of the suction on the mud pump, the hole can be kept filled and no time lost due to needed chasing of the pipe. Most drillers operate with the suction of the pump raised as this gives them a ready reserve of heavy mud by simply lowering the suction and also the lighter mud increases the footage cut per hour

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Owner and Licensor

By lowering the suction just before coming out of the hole, the pipe is filled with mud heavier than that in the hole and the unbalanced column will allow the mud to run out of the pipe. Length of time the pump should be run with the suction lowered is dependent on the number of strokes per minute at which the pump is operating, size of the piston and liners in the pump and the size of the drill pipe being used. It should be sufficient to fill the pipe with heavy mud. The derrick man will generally know the approximate time to be allotted if he has counted the number of strokes required to fill the pipe at the conclusion of previous trips.

The suction should not be lowered too soon as this will result in the filling of both the pipe and the hole with heavy, viscous mud which will delay matters; this generally happens when the driller has difficulty in making up his mind to pull the bit due to an increase in the cutting rate following lowering of the suction. An increase in the cutting rate may be expected at this point as the placing of heavy mud in the pipe generally increases the amount of fluid passing over the bit. Manipulation of the suction is also effective when pulling pipe in which there is no float valve such as on a wire-line core barrel.

As soon as the pipe has been filled with heavy mud and the pumping discontinued preparatory to coming out of the hole, the suction can be raised and after a few stands have been pulled and the valves switched, the pump can again be started and the hole filled with light mud. This will prevent lowering of hydrostatic head and decreases the danger of a blowout. Keeping the hole filled has another beneficial effect as it prevents caving and sloughing of the hole while a trip is being made. Whenever the hole is not kept filled, trouble will be experienced when the attempt is made to return the pipe to bottom.

Another Blowout Danger

Another danger of a blowout which results from making a trip is the forcing of air into the mud while filling the pipe after the bit has reached bottom. When the float is run on bottom, as most floats are due to the taking of straight hole tests, the entire drill string is full of air unless stops have been made to fill it. When the pipe is filled and circulation established, this air is forced out through the bit and into the fluid in the hole and there is a consequent reduction in the weight of the fluid column. In dangerous gas areas, the procedure is to fill the pipe at several intermediate points, the last filling being a few stands before reaching bottom. When circulation is established, only a small amount of air will be mixed with the mud. More careful operators go a step farther and after filling the pipe, shut down the pump, open the bleeder, and wait while the air works it way back up through the mud and escapes.

Among other things the drill-pipe float prevents cuttings in suspension in the mud from getting in the openings of the bit and plugging them. In areas where no float is used with a regular type bit, a 5 to 10-ft. section of 1-in. pipe is placed inside the drill collar to prevent plugging of the bit. The fill-up line provides a ready means of unplugging a bit if either method fails as circulation can be reversed by opening the fill-up line, closing the standpipe valves and reversing circulation.

Keeping the hole filled through the fill-up line is also an easy method of detecting leaks although in such cases the suction is raised instead of lowered before coming out of the hole as it is desired to have a fluid head in the pipe as it comes through the rotary table. Squirting of mud from the pipe will show exact location of the leak.

SAFETY — Lights on Towers Illuminate Derrick

TWO of the reasons for a decline in the number of injuries in the petroleum industry are the use of additional and improved safety equipment and the adoption of more effective methods of fire and accident prevention. Other factors enter the picture but these two items were the major reasons for a substantial reduction in the number of injuries during the past year.

Some operators go to great lengths to minimize the danger to their crews and equipment since they realize that a single accident may cost many times more than the installation of proper safety devices. Safety departments have adopted numerous slogans to impress workmen and supervisors with the importance of avoiding accidents and most company heads have made considerable effort to provide the proper equipment to make these expressions something more than mere suggestions.

The slogan "Be prepared for the unexpected," means something to one company operating in a field which has high gas pressures near Beaumont, Tex. It has installed floodlights on towers located 30 ft. from the derrick and removed the lights from the derrick floor, thus minimizing the hazard of fire in case the well blows in unexpectedly.

Impending blowouts generally give some warning but come quite unexpectedly. Crews attempt to curb the blowout up to the last minute and they are risking their lives if an electrical circuit is close to the spraying oil. Gasproof wiring and lights are effective if properly installed but one leak in the electrical circuit is enough to start a fire; by the time a gasproof light system has been torn down and rigged up several times, it will have several leaks.

With a wiring system in the derrick, the crew must either run the risk of being burned or it becomes necessary to work in the dark. In case the well does get beyond control, the work of capping it must go on during the full 24 hours of the day and special floodlights will then have to be ordered and installed. The system shown consists of four towers, each set 30 ft. from the derrick corner, each tower supports two lights. The lights are adjustable so that they thoroughly illuminate the derrick floor. In case of a threatened blowout, work can proceed without danger of explosion and if the well does get beyond control, the lights are already in position for night work while capping it. In the summertime the lights serve another beneficial purpose since they prevent collection of night insects on the derrick floor.

Drilling crews have a definite respect for high-pressure gas and do everything in their power to prevent blowouts or ignition of gas that collects around the floor. When drilling in under pressure guides are generally removed from the drilling line as the contact of metal on metal might cause a spark; some drillers even go so far as to slow down the hoist when the line gets near either end of the drum as the sharp contact of the two may cause a spark. The one danger of removing the line guide is the balling of the line on the drum and another source of a spark is created. A guide with rubber spools can be left on the line and there will be no danger of balling on drum.

When a stripper is used in conjunction with a grease joint, care is taken to have the clamps tight as any slipping of the joint inside the clamps may result in a spark. Well-oiled chains prevent much of the danger caused by the chain striking a metal guard or a nail.

Familiarizing themselves with the operation of the controls is also an important feature of the drilling crew's method of preventing explosions and blowouts while drilling or drilling in is in progress. Blowout-preventer drills do not take long and often the discussion of procedure proves valuable when an emergency arises as each member of the crew can do his part in controlling the well. This is particularly true in drilling in under pressure where the flow lines may have to be opened quickly and safely while at the same time the rams on the blowout preventer are being closed. If no production men are present, some member of the drilling crew must handle the separator, see that the valves to the flow tank are open and adjust the vent valves; too sudden or too high pressure on the separator may result in its being blown apart as the safety valve might not function.

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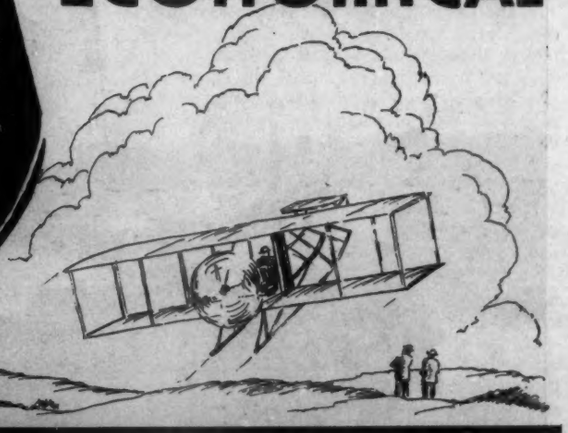

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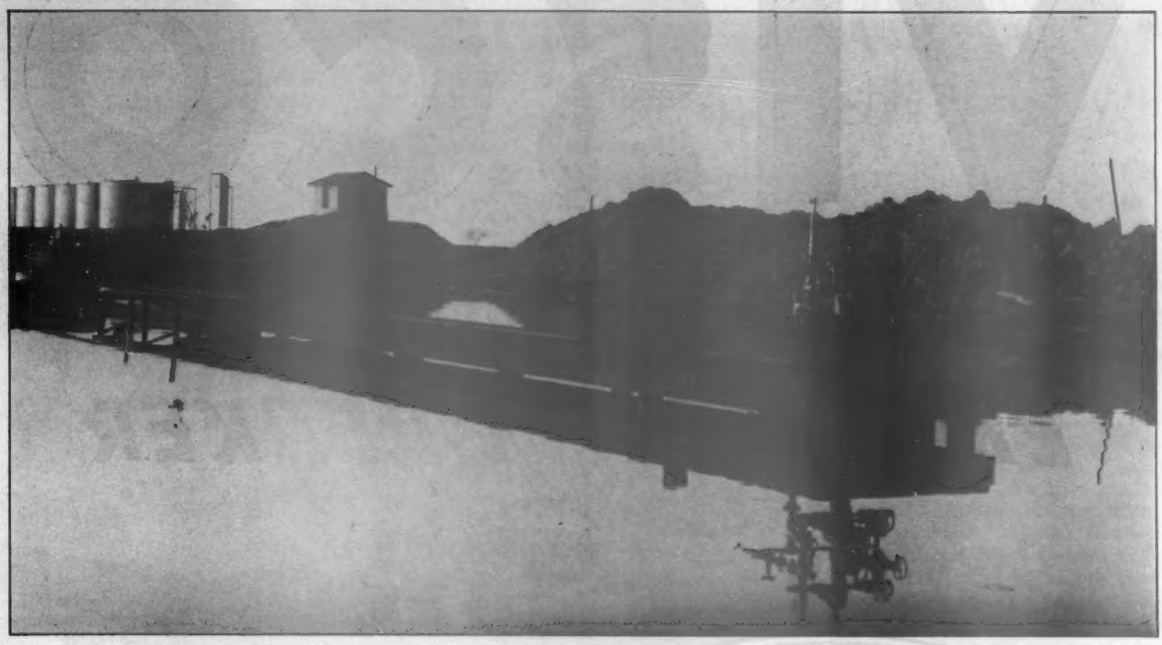


Completed producing well in canal in Chalkley field, coastal Louisiana, showing central field storage battery at left

Maritime and Land Operations Contrasted in Chalkey Field

By NEIL WILLIAMS

THE contrast of maritime and land oil operations are being brought strikingly together in the development of the Chalkey field, Cameron Parish, coastal Louisiana. One of the two operating companies is developing its properties by the land route, building a good road system covering its leases, while on immediately adjacent properties the other company has chosen to cut canals and is operating by water.

The land operations are being carried on by Humble Oil & Refining Co., whose properties, taking in the northern portion of the field, consist of rice land. Leases of Shell Oil Co., Inc., the other operator, dip down into the marshes. Of interest, however, is the fact that since Shell started its development, most of its properties, either because of drainage due to the canals or because of shortage of rainfall in the area, have been sufficiently dry that development might have been carried on by land.

At the time Shell went into the area the land was under about a foot of water with the marsh line somewhat farther advanced inland than it is now. This led to the decision to cut canals. Now the land, with an elevation of 1½ to 2 ft. above mean tide level, is subject to inundation only during infrequent periods of extra high water. This presents a picture of maritime operations being carried on in a field located on dry land.

Drag-line shovel mounted on barge used in excavating canals in Chalkley field, coastal Louisiana. Drilling barge shown in canal in background

Advantages of Water Operations

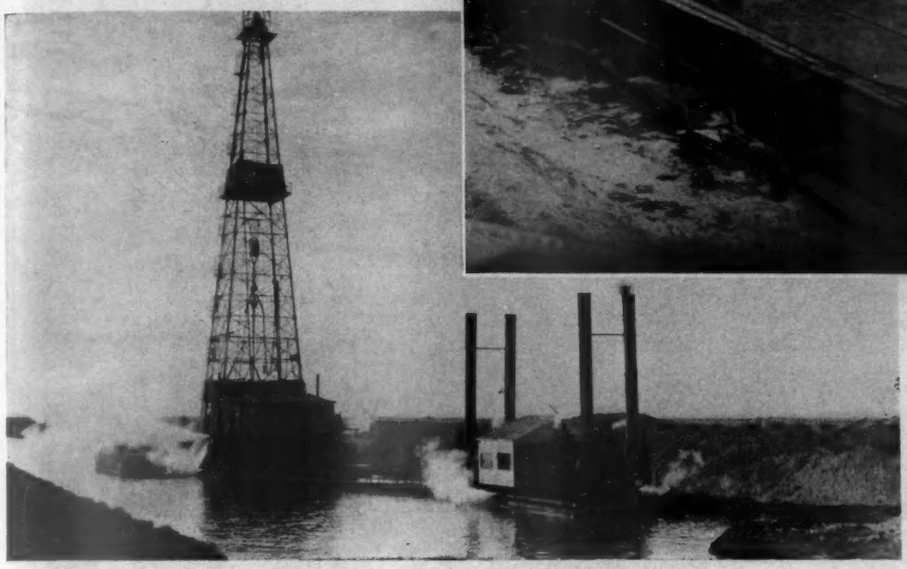
Starting with a maritime development program, Shell has continued this type of operation. Although land operations might have been followed, this company now is taking advantage of the benefits of water operations. Being able to use drilling barges and boats, it expects to make possible substantial savings in time and costs of well moves, transportation, hauling, and other handling costs.

Although it has its advantages and conveniences, maritime development generally has been resorted to as a matter of necessity or expediency. Fields in which it has been undertaken either have been inaccessible by land, or conditions have been more adaptable to operation by water. The latter has been true in most of the fields in isolated marsh regions, where development by land methods would have been extremely difficult, if not impossible. Now, at Chalkley, such operations are not a matter of strict necessity.

Humble Oil & Refining Co. has erected a large, modern oil-field camp at Chalkley, where field offices are maintained. This has not been necessary for Shell Oil Co., Inc., whose South Louisiana division offices are at Iowa, within 20 miles by all-

Right: Shell Oil Co., Inc.'s central field-storage battery with oil barge being loaded in Chalkley field, Cameron Parish, coastal Louisiana

Below: Drilling and boiler barge operated by Shell Oil Co. in Chalkley field, Cameron Parish, coastal Louisiana



weather road. From that point, only 12 miles east of Lake Charles by paved highway, there is ready communication and easy access.

The field is only about 5 to 6 miles north of the Intracoastal Canal, and the Bel City drainage canal, also a navigable waterway, which flows into the Intracoastal Canal, passes immediately adjacent to the east side of the field, providing access by water route. It is by these canals that Shell Oil Co., Inc.'s maritime operations at Chalkley are being made possible.

Unlike the waterways in water and marsh fields, which either are natural or which can be dredged, the canal system provided by Shell at Chalkley has been dry cut. In undertaking the cutting of these canals, the cost has been found to be substantially less than would have been required to build roads, and also has been less than the usual cost of dredging in marshes. Even the laying of temporary plank roadways to the various locations would have involved a greater initial outlay than required by the cutting of the canals. Thus to start development of the properties, important savings have been effected.

On the other hand, providing this system of canals is a sizeable project. So far, upwards of 7 miles of canals have been cut. The system is being extended as additional locations are made. The canals are being cut approximately 60 ft. wide and 9 ft. deep from the surface (water depth about 7 ft.), which requires the removal of more than 105,600 cu. yd. of dirt per mile. Anticipating a field of more than ordinary size, Shell may have an extensive layout of waterways by the time development is completed.

Draglines have been used in excavating the canals. These are operated from the banks, using mats in soggy places. Mats are picked up and carried ahead with the dragline. Excavated dirt has been piled on both sides of the canals, forming high levees which serve to prevent any overflow of the canals on the surrounding rice land during high water. With all operations within the canal system protected by the levees there is no chance of pollution escaping. Special traps, or gates, also have been provided that permit drainage of the surrounding country into the canal system, but prevent any back flow.

The canal system is being laid out in straight lines across the company's properties, following the rows of well locations being drilled on a uniform 40-acre unit well-spacing pattern. The main canal enters the field from the Bel City drainage canal, about 1½ miles east of the center of development. Prior to the recent extension of this canal to the road about 2½ miles west of the field, the only access to Shell's operations was from the east by way of the Bel City canal, which required about a 9-mile boat trip from the town of Bel City, the nearest landing, northeast of the field, or about a 12-mile trip from Creole Landing, on the Intracoastal Canal southwest of the field. Passenger traffic usually came in from Bel City, the nearest point to Iowa, district headquarters of the company, while equipment was brought in from Creole Landing.

Accessibility of Field

Accessibility of the field to the Intracoastal Canal makes it possible to bring pipe and other equipment direct to the field and wells by barges from eastern mills and plants or from other supply centers. Particularly in the case of pipe, which can be unloaded at the well in which it is to be used, substantial savings have been effected in handling. By this practice as much as $1,000 has been saved in pipe-handling costs on a single well.

The canal system also is facilitating the movement of oil production direct from the field by barges. All production is run to a central field-storage tank battery, which is conveniently located on the bank of the main canal within the field. Six 1,000-bbl. tanks have been provided which are set up on top of the high fill thrown up in excavating the canal. Barges to be loaded tie up in the canal immediately adjacent to and below the tanks, permitting gravity-flow loading. Elevation of the tanks is such that as much as 1,100 bbl. of oil can be loaded per hour through the lines provided.

So far the development of the field and the installation of facilities are so new that the company has not had opportunity to beautify the site, but as rapidly as possible this will be done. Additional facilities also will be provided as needed. In the tank-battery installation a hookup has been provided that includes both high-pressure and low-pressure separators.

One Drilling Barge in Field

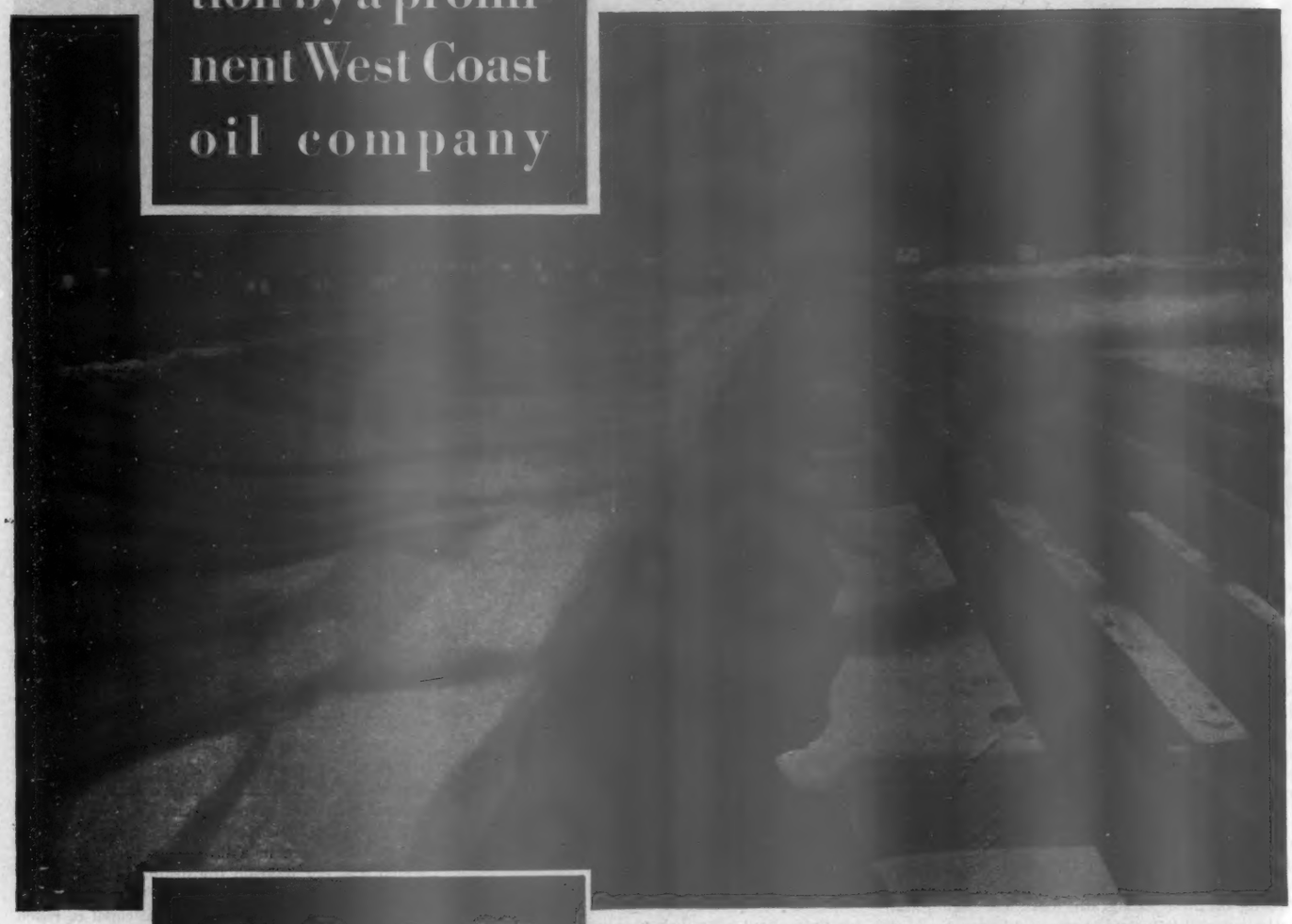
Shell is keeping one drilling barge working in the field, and now is on its sixth test, with one dry hole and four producing wells having been completed, all in the past year. The first test, which failed to get production, was abandoned in June after drilling to a total depth of 9,550 ft. It was about ½ mile east of the present nearest production, its location being just off the Bel City drainage canal. The next three tests, all completed as producers, are in a line along the main canal which was cut in from the drainage canal. Drilling of the first, the most westerly of the three, necessitated cutting over a mile of canal to reach the location. The fourth producer, just completed, is ¼ mile south.

The Chalkley field was opened in November 1938, by Humble Oil & Refining Co., whose block adjoins to the north that of Shell Oil Co., Inc. The discovery well, a distillate producer, is 1½ miles north of the Shell line. It was drilled to a total depth of 11,693 ft. but was plugged back and completed in sand in which casing was perforated at 8,562-69 ft. First oil production was opened in February 1939, in the next test drilled by Humble, over a mile south and a little east of the distillate well, and which was completed in sand in which casing was perforated at 8,949-59 ft. Located in the southeast corner of the Humble block within ¼ mile of Shell's block on two sides, it brought Shell into the picture.

As Shell's first location, about ½ mile southeast of Humble's well, was convenient to the navigable Bel City drainage canal, and in a place which happened to be some distance from a roadway except across Humble's block, it was decided to drill the test with a marine rig. This was moved into the location from the Black Bayou field, a distance of about 45 miles, by way of the Intracoastal

(Continued on Page 52)

Cast iron pipe installed for drilling operation by a prominent West Coast oil company



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Some Unsolved Deep Well Problems Under Proration

By G. O. NEVITT
President of Gas Power, Inc.

Well head with clamps used in high-pressure operation

MANY deep wells which came in making pipeline oil, quit producing any oil before the accumulated value of the oil had paid for the drilling costs. Just how many such wells there are is unknown.

Deep wells on producing structures usually penetrate more than one oil-bearing stratum. Drilling practice is to complete the well at first in a stratum which can be cemented off when salt water prevents oil recovery in that stratum. The well is then recompleted in another known oil-bearing stratum, thus enhancing the cash payout probabilities in the hazardous business of deep-oil production.

The heavy machinery and equipment necessary to drill and complete these deep wells are samples of modern mechanical ingenuity. Modern core taking, core analyses, mud control, weight indicating and recording, drill-stem testing, bottom-hole sampling, bottom-hole-pressure recording, electric logging, gun perforating, squeeze and selective cementing, etc., are relatively new processes utilized by the geologists, paleontologists, and petroleum engineers who are responsible for the successful completion of deep wells. These new instruments and methods have made possible the recent successful completion of the large number of deep wells.

But no comparable instruments or methods of dealing with the problem of obtaining the greatest possible ultimate recovery of oil from deep wells exist as yet although out of necessity their development has begun.

Disturbance in Formation

Once the formation equilibrium is disturbed by production of whatever fluid will flow from the well, trouble for the operator seems to begin. There is an absence of complete scientific instruments and methods for measuring the variable conditions developing in the formations and within the vertical pipes of the well assembly. Changing surface chokes is the only present-day process in general practice for controlling the many variables operating. And this is not sufficient to get the largest possible per cent of oil from the deep formations.

Inattention to ultimate recovery is based upon conceptions that deep wells may be expected to perform like shallow wells have performed for many years past. However, deep wells are a new factor in the oil industry. The majority of them have been drilled within the past 4 years. The first economic necessity has been to have the production while flowing to repay the cost of drilling and yield a profit before workovers become necessary. Due to proration, the per well allowables per day have been relatively low, when compared to tested initial potentials.

Those who contacted with the oil-producing industry before proration, in those days of the "rule of capture," remember that just as soon as salt water showed up in a boom field, scouts passed the word on to investors and other operators, and lease and royalty values began skidding downward. Experience has shown that when salt water made its appearance in a field it would not be long until that field would go on the pump, thus eliminating flush-production profits regardless of the prevailing price of oil. But most of such fields continued to produce commercial quantities of oil along with variable amounts of salt water, although they had to be pumped. This class of fields today constitutes an important part of the national recoverable reserves of oil.

Shallow-Well Production

Relatively shallow fields have a characteristic of producing oil at low rates of production for years on years. Production figures prove this. Then when the pumps fail to get commercial quantities of oil, possible secondary-recovery projects come into prominence. Secondary-recovery methods cannot use old wells which have been on production by standard methods for perhaps 40 years, as obtains in the Bradford pool in Pennsylvania. Old wells are abandoned and plugged. New wells are drilled on precise patterns of about 1 acre per well. Holes are carefully cored and cores analyzed for porosity, permeability, and per cent of saturation still existing. In the Bradford pool, cores analyzed show that more than 80 per cent of the oil originally still is in place in the pore spaces, less, of course, most of the originally accompanied gas, after a half century of standard production. Other secondary-recovery projects have shown by core analysis that most of the oil originally in the formation remains there after many years of standard production methods. This may account for the long-production life of most of the relatively shallow oil fields.

Errors in production practices in shallow fields can be more easily corrected because of the low cost of drilling shallow wells for secondary-recovery methods. Workovers of deep wells in order to control water or gas are especially costly. Now there is a demand for wider spacing of oil wells. Deep wells cost so much that present drilling patterns of 10, 20 or 40 acres per well have doubtful or at least controversial economic value to the oil industry as a whole.

Enough deep wells have been on production for a sufficient time to prove that deep wells do not behave as shallow ones do. The Rodessa pool of Louisiana produced from depths of approximately 6,000 ft., and beginning as an unregulated pool, upset a number of engineering conceptions. It has been a proving and disproving ground ever since. Production factors coming into practical prominence at Rodessa have been checked and double checked in some of the deeper Gulf Coast fields and they confirm the statements of this paper. Particular well details cannot be published at present for obvious reasons. No state-regulatory body in the Mid-Continent area has an accurate tabulation of the dead and nearly dead wells in its state. Most available reports are obtained from pipe-line records of new connections and old disconnections, and more recently the Texas GO. 2 Test Reports, which reports many petroleum engineers do not regard as accurate.

Stocks of Oil

Since only about a 90-day supply of oil is at present aboveground, the real material assets of all oil producers is the recoverable oil still in the ground. The rate of depletion of these reserve assets, together with the costs of present and future production, will spell the economic soundness and profits to the operators. Also, engineering and technical advancement can proceed only as fast as economic necessity and executive approval evaluate the uncovered facts. Executive investigation of comparison between shallow and deep-well performances, production records, costs —including workovers and flowing life—will be revealing.

Conclusions

Most deep wells are being drilled and completed by using the most advanced machines and methods, and then they are being produced by methods that are holdovers from the horse and buggy days.

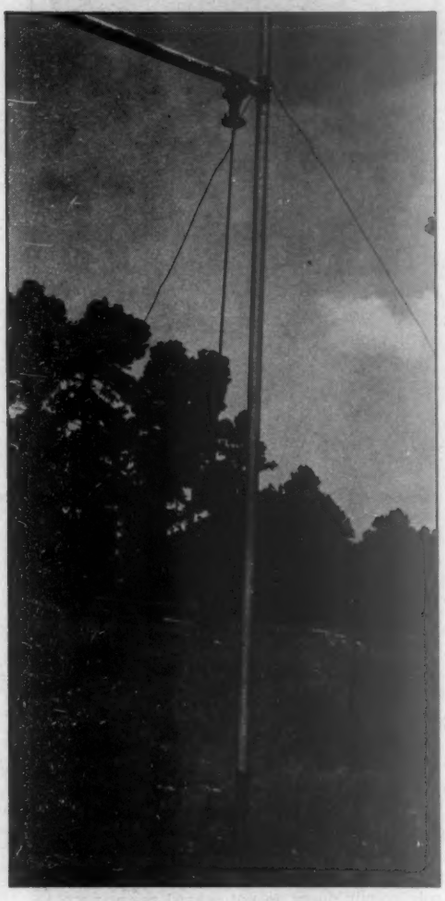
Many deep wells have produced but a small quantity of the oil actually in place adjacent to the well bore, before going completely to salt water or to excessive gas-oil ratios.

Workovers to control salt-water encroachment or excessively high gas-oil ratios in deep wells have not been entirely successful.

Wells to be drilled between present locations, or the use of more efficient production methods,

(Continued on Page 52)

Operating Ideas



Detachable Extension for Vent Valves

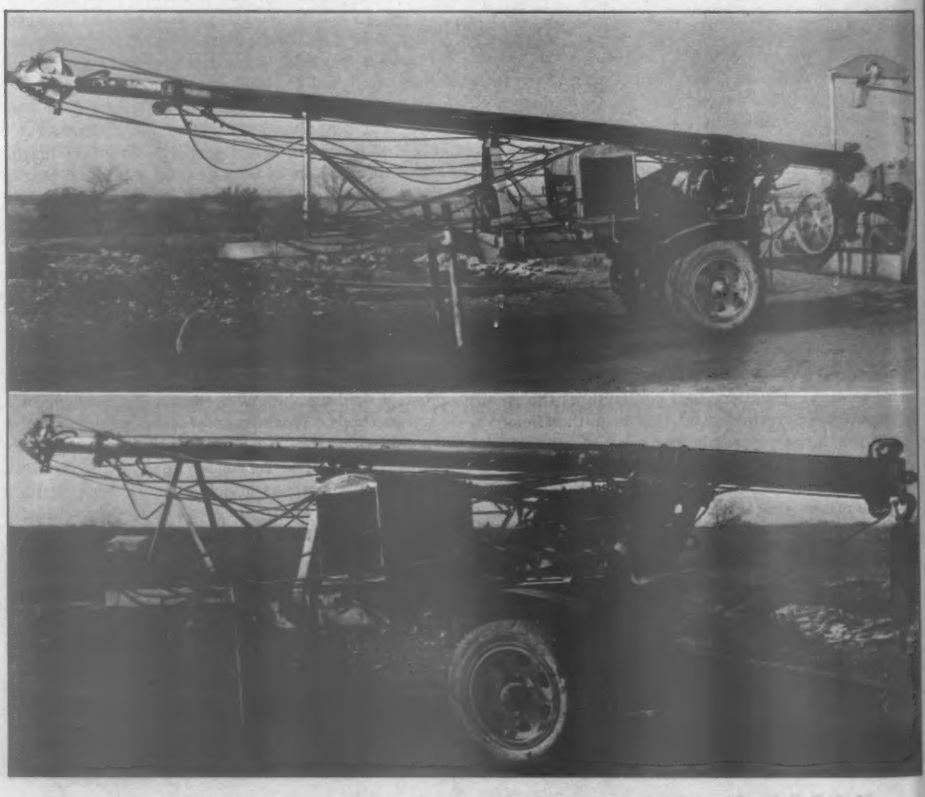
Either a ladder must be provided at the end of the vent line on a tank battery or some type of extension must be used if the lease switcher is to maintain the desired control of the vent valves. Either method has drawbacks. One lease is equipped with sucker-rod extensions hanging from the valves, which are installed inverted; that is, the hand-wheel and stem is at the bottom. The tops of these extensions are fitted with a C-shaped end, with arcs of such a length that when the extension hangs vertically, the ends are supported by the rim of the handwheel, and the arcs serve to transmit torque against the wheel spokes. To remove such an extension, it is necessary only to carry the handle to one side far enough to cause the crescent-shaped end to swing around within the rim of the handwheel until one end is cleared, then to rotate it slightly and withdraw the other. Such a device enables the switcher to guard against meddling or unauthorized manipulation of the vent valves simply by removing the extension.

Dual Drive for Water Pump

Belt driven from a small gas engine when the lease wells are down or flowing, the pump supplying lease water may also be driven by the beam pumping the oil well adjacent to the water supply. This may be done by means of an ingenious shifting of the water-well-jack yoke. For individual drive, the side arms of the yoke are carried on pins in the rims of the big gears, imparting reciprocating motion to the pump rod in the usual manner. To shift over, the side rods are disconnected from the gears, and they are bolted together over a short section of 2-in. pipe. This pipe, before being bolted in place, is slipped through the eye in an end of a ⅝-in. wire line. The wire line runs up and over the crown-block servicing pulley and returns to a turnbuckle on top of the pumping beam. The turnbuckle attachment is clamped to the beam. It is adjusted so that 36-in. well stroke of the oil well pumps the water well with a 24-in. stroke. To provide straight-line pull on the water pump while it is beam driven, the crown block is moved laterally to one side of the usual center mounting; it is clamped there until it must be again centered for well servicing.

Trailer-Mounted Well-Servicing Unit

In the Voth pool of Montague County, North Texas, one company is using the trailer-mounted clean-out unit shown here for servicing wells. The mast is telescopic so that sufficient height may be had when it is placed in a vertical position for servicing a well, yet it is not too long when the unit is in transit. The winch is chain driven from a gas engine. Frame of the trailer is constructed from steel beams. When not connected to the truck, the front end of the trailer is supported by two steel braces, adjustable in height so that the unit can be easily leveled.



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5. The uniform toughness, hardness and strength plus freedom from material defects make the Ideal Alloy Fully Heat Treated Drill Collars safer, stronger, and longer wearing. In addition, they operate smoothly at the highest rotating speeds, because surveying instruments are used on each collar to guarantee concentricity of the bore.

The collar must also be free from flaws or defects which might cause failure in service. This is assured by the use of the Magnaflux Test, a new method of inspection that utilizes the principle of magnetic attraction to search out all defects no matter how deeply hidden. Ideal Alloy Fully Heat Treated Drill Collars are Magnaflux Tested both after heat treatment and after machining to insure that no defects go undiscovered in the finished collar.

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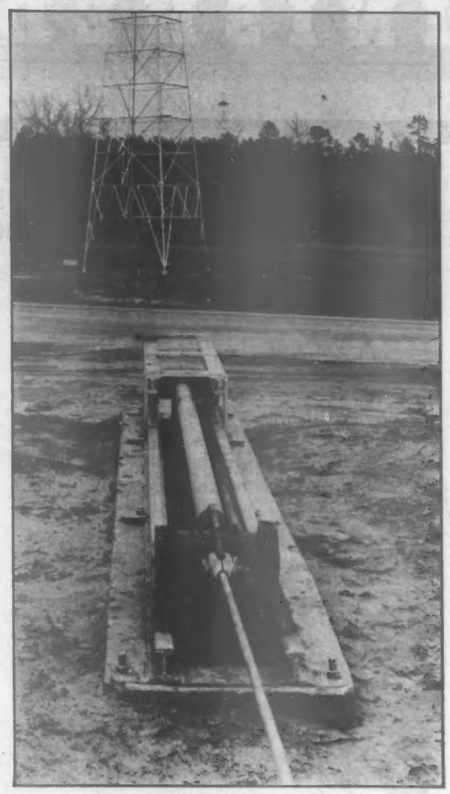
Top: Pendulum for highway crossing and pendulums between swing and power to hold rod line in alignment for efficient operation. Below: Wheel and track device used instead of pendulum. Bottom: Pendulum with guard provided for safe operation



Rod-Line Crossings for Producing Properties

By PAUL REED

IN devising methods for providing road crossings for rod lines at oil-producing properties pumped by central powers, operators have applied much ingenuity in solving the problems presented by conditions in different localities. Most crossings are made by passing the rod line under the highway through a casing and it is frequently necessary to install a pendulum of some kind to transmit the motion of a rod line on the surface to a lower level. Although pendulum equipment designed for various requirements is procurable from manufacturers, the producer must plan the installation so that it is adapted to the pumping operations which he is conducting. Foundations must be correctly aligned and heavy enough for the stresses encountered in service.

Much attention has been attracted by the pendulums installed by Continental Oil Co. along the highway that passes through its Naval Reserve properties in Osage County, Oklahoma. Steel covers have been provided to keep dirt and debris from getting into pendulum pits. Such covers also prevent stock and curious passersby from being injured. On some properties substantial fencing of heavy wire mesh has been adopted to serve for guarding pendulums.

An unusual type of rod-line road crossing has been devised which makes it possible to get along without using a pendulum under conditions which ordinarily are met by the installation of a pendulum. The equipment referred to is shown in an illustration at the right side of this page. This has been constructed by placing a railroad type of rail on foundations on either side of the pit. A sliding frame rides back and forth which rolls on flanged wheels along the tracks; the movement of the frame is actuated by the rod-line motion. On the end of this device, which faces toward the well being pumped, tracks are placed above the wheels as well as below. Tracks placed above and below the wheels, held rigidly by welded frame work, keep the frame from being raised upward by the rod line. The frame is of A-frame construction; it extends downward into the pit, at the lower end of which the section of the rod line is attached which connects with the jack at the well on the other side of the road.

In the mountainous country of western Pennsylvania, road crossings are often made by suspending rod lines from cables in the same way as that customarily used for carrying rod lines across creeks. At one point where a rod line crosses a highway in this manner, the jack is placed on a high foundation built in the form of a small derrick. This makes it possible to bring the rod line directly to the jack without an intervening pendulum which would be awkward to install and maintain since the well being pumped is close to the road. The casing head is at the usual height from the surface of the ground which slopes downward from the road. An unusually long polished rod extends up to the jack mounted on the high foundation. Another unique crossing scheme might be mentioned which has been used in this same area where pendulums, to a large extent, have been designed and built under the direction of the men operating producing properties. This consists of building one frame to hold a shaft on which two pendulums swing independently; these are connected to parallel rod lines. Pendulum equipment of this kind has been built of heavy timbers; the pendulums themselves are of V-type construction. Substantial foundation and reinforcement has been provided by a wall built of flat rocks.

EACH HAS ITS PLACE . .

There is no question that for most purposes preformed wire rope offers many advantages of economy and convenience over non-preformed. Preformed rope is easier and quicker to install as it has no tendency to loop. It spools more evenly so is less apt to be crushed from poor winding. A broken wire does not go wild to destroy its neighbors. When free, a preformed rope has no tendency to twist or to unlay. Both types of the same construction offer the same resistance to abrasion. For uses where abrasion is a factor it may be more economical to use non-preformed. Wickwire Rope is made in both non-preformed and in Wisscolay Preformed. Wickwire rope engineers will gladly tell you the most economical type to use. In either case be sure it's a Wickwire Rope . . . thus you are assured of the longest possible rope life.

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Progress in METALS

By W. L. NELSON

Alloy Cast Irons

From American Foundrymen's Association, Chicago

TO the many users of cast iron who cannot be active in all details of its manufacture, a book issued in the above name will be extremely useful because it summarizes in a single volume a great mass of information that has heretofore been scattered. Too, the discussion is free of the prejudice that often pervades an article on a single type of alloy iron. This book is a joint effort of the 47 members of Alloy Cast Iron Committee which has been active in preparing the book for over 4 years.

The following are its main divisions: Metallurgical Principles; Effects of Alloy Elements; Effects on Physical and Mechanical Properties; White Irons; Heat Treatment, Foundry Practice; Applications, and Bibliography. The physical and mechanical properties of particular interest to the petroleum industry are fatigue, impact strength, wear, heat resistance, and corrosion resistance.

The user of irons will be particularly interested in the 20-page section or table entitled, "Specific Applications of Alloy Cast Irons." Although the recommendations are not complete, they are proven. It is regretted that more complete tables of application and a discussion of each application was not presented. The part of this table pertaining to oil-refinery equipment is reproduced here.

Unique Drive for Tanker Pumps

AN ingenious installation in which hydraulic pumps are utilized as power motors in addition to their normal function, is found in an oil tanker owned and operated by the Reinauer Transportation Co., of New York. Two 200 g.p.m. Viking pumps are connected to an 80 hp. diesel engine, and deliver lubricating oil to two additional Viking units which act as motors to drive two cargo pumps. The engine division units are located 100 ft. from the hydraulic motor pumps, thus minimizing fire hazards, and making it entirely unnecessary to heat the pumping room. This arrangement also provides flexibility otherwise unattainable as both cargo pumps can operate at normal speed, or either one at overspeed or at over the normal operating pressure.

It is stated by the manufacturer that this system effected an economy amounting to several thousand dollars, since any other comparable arrangement would have required some means of driving the cargo pumps that would pass fire inspection, and also special heating for the pumping room.

In all these heavy-duty pump units, the casings and heads are produced in a cast iron with a tensile strength of 45,000 lb. per sq. in. or over, and with hardness running 220 to 230 Brinell. The chemical composition, approximately Inco Spec. A-29*, is as follows:

Total carbon	3.20 per cent
(Combined carbon)	0.65 per cent
(Graphitic carbon)	2.55 per cent
Silicon	1.70 per cent
Manganese	0.70 per cent
Nickel	1.00 to 1.25 per cent
Chromium	0.30 to 0.40 per cent

*See Nickel Cast Iron Circular Chart. Available on request.

Experience and test data gathered at this plant indicate that a gray iron of this composition gives very good resistance to many types of abrasion encountered, and is strong and tough, with a close-grain structure free from casting difficulties, and is free-machining.

Metallurgical Terms

Allotropy of Iron

The change in the cubic crystal structure of iron (from A.P.I. Code No. 28) at critical temperatures. The ranges of temperature for pure iron within which each modification is stable, are:

Modification	Crystal structure	Range of stability, °F.
delta	bodied-centered cubic	2799-2557
gamma	face-centered cubic	2557-1663
alpha	body-centered cubic	1663 and under

By the editor: The common or alpha variety of iron is magnetic whereas gamma iron is nonmagnetic. Normally gamma iron is not stable at room temperature but if a relatively large amount of alloy element is added, the gamma variety may be retained at room temperature and is present in those steels which are referred to as austenitic steels. Common examples are 13 per cent manganese steel, the stainless steels (13 plus per cent chromium) and high-nickel (30 plus per cent) steels.

ALLOY CAST IRONS FOR REFINERY EQUIPMENT

	Chemical range, per cent										Metal sec. range (In.)	Wt. range (Lb.)	Hardness Brinell	Transverse Load (Lb.)	Transverse Defl. (In.)	Tensile strength lb. per sq. in.	Remarks—
	Si	T.C	G.C	C.C	S	P	Mn	Ni	Cr	Cu							
Heat-interchanger shells and condenser sections in low-pressure refinery service	1.5 to 1.8	2.7 to 2.9	2.0 to 2.2	0.6 to 0.8	*0.1	0.2	1.0 to 1.2	14.0 to 16.0	2.0 to 2.50	5.5 to 6.5	0.5 to 1.5	200 to 600	180 to 200	[2]2,500 to 4,000	0.25 to 0.35	25,000 to 35,000	Used for corrosion resistance.
Tube supports or tube sheets in low-temperature range of cracking stills—1,200° F. max.	1.0 to 1.25	3.0 to 3.2	2.2 to 2.35	0.75 to 0.9	0.1 to 0.12	0.15 to 0.25	0.6 to 0.7	1.4 to 1.6	0.6 to 0.8	...	0.75 to 1.5	200 to 400	230 to 250	[1]5,500 to 6,000	0.15 to 0.17	40,000 to 45,000	Used for resistance to heat, warpage, and scaling. In excellent condition after continuous service for 4 years.
Pipe and fittings on crude and acid-treated oil and caustic soda	1.5 to 1.8	2.7 to 2.9	...	0.6 to 0.8	*0.1	0.2 to 0.6	1.0 to 1.2	14.0 to 16.0	2.0 to 2.5	5.5 to 6.5	0.25 to 0.5	...	180 to 200	[2]2,500 to 4,000	0.25 to 0.35	25,000 to 30,000	Used for corrosion resistance.
Pipe and fittings on transfer lines	1.4 to 1.5	3.4 to 3.5	...	...	0.06 to 0.08	0.6 to 0.7	0.5 to 0.6	0.16 to 0.2	0.28 to 0.35	...	0.25 to 1.0	...	200 to 250	[3]2,600 to 3,000	0.28 to 0.32	30,000 to 40,000	Used for corrosion resistance.
Condenser coils	1.4 to 2.0	3.4 to 3.5	...	...	0.06 to 0.08	0.3 to 0.6	0.5 to 0.6	...	...	0.75 to 1.0	0.37 to 0.75	...	200 to 225	[3]2,400 to 2,800	0.25 to 0.3	30,000 to 35,000	Used for corrosion resistance.
Bubble caps, oil refinery handling sour crude or acid-treated oils	1.8 to 2.2	2.8 to 3.1	...	...	*0.1	*0.2	1.0 to 1.2	14.0 to 16.0	1.5 to 2.5	5.75 to 6.25	0.25 to 1.5	6 to 15	150 to 180	2,200 to [3]2,600	0.4 to 0.6	22,000 to 30,000	"Ni-Resist" metal. Used for resistance to corrosion of acid, caustic, and salt solutions.
Condenser headers, pump casings, pump impellers, pump sleeves, valve bodies in refinery handling sour crude or acid-treated oils	1.8 to 2.2	2.8 to 3.1	...	...	*0.1	*0.2	1.0 to 1.2	14.0 to 16.0	1.5 to 2.5	5.75 to 6.25	0.25 to 1.5	20 to 500	150 to 180	2,200 to [3]2,600	0.4 to 0.6	22,000 to 30,000	"Ni-Resist" metal. Used for resistance to corrosion of acid, caustic, and salt solutions.

*When single figure used, represents maximum. [2]1.2-in. diameter—18.0-in. supports. [1]1.2-in. diameter—12.0-in. supports.

A JOB THAT CALLS FOR STAMINA PLUS

The polished rod has its work cut out for it under the best of circumstances—with plenty of added grief under abnormal pumping conditions.

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And it is because Chrome-Molybdenum (SAE 4130) steel can be heat treated to develop these properties in ample measure that it is finding widespread use in polished rod service.

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MOLY

Maritime and Land Operations Contrasted in Chalkley Field

(Continued from Page 41)

Canal. Starting with the barge, the company chose to continue development in the same way.

Development so far has given indication of the existence of a field of more than ordinary importance, although with only two companies involved and each following a conservative and systematic drilling program, proving of the field is devoid of any spectacular play. With the four producing wells completed by Shell Oil Co., Inc., and six, including two distillate wells, completed by Humble Oil & Refining Co., there now are 10 producing wells in the field. At least five producing sands, ranging in depth from 8,500 ft. to below 9,300 ft., are known to be present over the field, although so far only the second and third of these have been opened for production. Humble Oil & Refining Co. produces from both the second and third sands, while Shell produces only from the second.

Pressures in Lower Sands

The lower sands, where drilled, have carried largely high-pressure gas and distillate, so with production in the upper sands, no completions have been attempted in them, although it is assumed that at some structural position in the field all the sands will be prolifically productive. The lower sands have had indicated pressures above 5,100 lb., necessitating the exertion of extreme precautions in their drilling. High bottom-hole pressures, running around 4,100 to 4,200 lb., also have been encountered in the upper sands, but operators have been successful in controlling them.

A major fault with a displacement of between 300 and 400 ft. is believed to extend east and west across the field near the line separating the Humble and Shell blocks. This is indicated by the fact that the sands on the Shell block and at the south end of the Humble block are encountered at consistently greater depths, although both sides of the supposed fault are equally productive.

While a 40-acre spacing program has been adopted by the two operating companies, the pattern is such that additional wells can be drilled later between existing wells to effect a 20-acre spacing. Carrying out of this development program has been facilitated by the fact the respective blocks of the two companies are in large tracts of limited ownership.

Humble and Shell Practices

Similar drilling and completion practices are followed by Humble and Shell. Both start their wells with 16-in. conductor pipe, Humble running about 136 ft. as against about 90 ft. for Shell, and follow with 10¾-in. surface casing, from 2,600 to 2,700 ft. being set in Shell's wells and about 2,750 to 2,800 ft. in Humble's. Five-inch flow string is used by Shell, while Humble normally runs 7-in. oil string. Casing is run through the sand and then perforated at the desired level. No screen is set by either operator.

The marine rig used by Shell Oil Co., Inc., is of the submersible type, similar to the many others that are operated in water locations on the Gulf Coast. The boiler barge, equipped with four high-pressure boilers, is of the floating type. With this assembly, moves from well to the next location are made within 6 hours, eliminating tearing down and setting-up time, one of the many advantages in maritime operations. Wells are being drilled and completed at depths of 8,900 ft. in 22 days, 15 days being the usual time down to 8,600 ft., where coring is started, with 5 days required for coring down and completing.

Both Humble and Shell move their production by barges, which, by way of the Intracoastal Canal, can be towed either down the Mississippi River district, or to the Beaumont and Houston districts. As previously mentioned, Shell has its loading dock centrally located in the field. Humble has provided dock-loading facilities on Bel City drainage canal adjacent to the field.

Some Unsolved Deep-Well Problems Under Proration

(Continued from Page 43)

or both, will have to be used to get all possible recoverable oil from deep formations.

Engineers who have studied the deep-well characteristics know this, and they await executive recognition of the fact before they can proceed to solve the problem. Executive attention at present is focused upon the fact that conditions have compelled them to drill what they regard as unnecessary wells, and then at the end of the year find that their total legal allowable is less than at the beginning of the year.

Workable formulas for determining what constitutes the much talked of "optimum rates of flow" of oil and gas from wells, particularly deep wells, have yet to be developed and defined. When such formulas are defined and accepted, then present political uncertainty, engineering juggling of facts and figures to obtain larger legal allowables, and inequalities among operators drawing oil from a common source will be eliminated or minimized.

There is more present agreement among engineers than among oil executives that such formulas are the basis for the whole conservation and proration structure. Engineers if not too much hampered by an unnatural expediency can and will find ways by new flowing methods of obtaining a larger percentage of formation oil, particularly from deep formations now being discovered and drilled so efficiently.

NEXT WEEK

"The Treatment and Disposal of Oil-Field Brines"

By JOE J. RADY

Hookups Cut Cost of Pumping Operations

OPERATORS of producing properties frequently find it possible to increase efficiency by making full use of the possibilities offered by pumping jacks. At the left below is a small air-cooled vacuum pump, driven by a single belt from an extra groove in the driving sheave of the electric motor which operates the jack. This well is in a town-lot sector of the Centralia, Illinois, field where there is a large number of independent operators, many of whom have single-well properties. Vacuum is commonly used there.

At the right below is Magnolia Petroleum Co.'s No. 1 Sam Green, Henderson County, Kentucky. A beam device has been installed which is actuated by the mulehead of the pumping jack and pumps a water well near the oil well.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Boiling Points and Distillation Yields Change With Altitude

Can you tell me if altitude has any effect on the A.S.T.M. distillation recovery of propane-free ordinary motor gasoline of 13 to 14 lb. Reid vapor pressure?—G. P. H.

When the vapor pressure of a liquid equals that of the atmosphere the substance rapidly passes from the liquid to the vapor form. This condition is known as the boiling point. The boiling point of a pure liquid substance, such as water, is the highest temperature at which the liquid and its pure vapor can exist in equilibrium. This temperature is a characteristic property of all pure substances, so it very often is used by the chemist as a test for identification. The boiling point, as suggested above, varies with the pressure, consequently the quantity of vapor condensed from any liquid always depends upon the pressure existing while the distillation is being made.

When determining the boiling point of a substance, or the rate of distillation, which includes recovery, at various temperatures and percentages, several conditions must be fixed, the most important being:

(*a*) The mercury column of the thermometer must be entirely immersed in the vapor passing off from the liquid.

(*b*) The atmospheric pressure must be normal.

(*c*) The rate of distillation must be moderate.

All of these, and other possible variables, were considered when arranging the standard test for distillation of petroleum products.

The boiling range of the various hydrocarbons constituting a product such as gasoline is so wide that a suitable thermometer cannot be placed entirely in the vapor when distilling, so allowances are made by the maker for emmergent stem. Other details of the thermometer which have a relation to influences over temperature indications are included in the requirements so that the possible instrument errors are reduced to a minimum. The many possible conditions that have a relation to boiling point are described in the apparatus and method of the A.S.T.M. distillation test. Several of these have a greater bearing on temperature and recovery figures than ordinary atmospheric-pressure variations. The initial boiling point, including the low-temperature recovery percentages, is important for a product having 13 to 14 lb. vapor pressure. The A.S.T.M. procedure requires that the temperature shall be recorded 2 minutes after application of the heat as the "correction temperature."

"If the 'correction temperature' is below 70° F. (21° C.) or above 80° F. (27° C.), the observed initial boiling point, if it is below 150° F. (66° C.), may be considered incorrect by an amount not less than one-third the difference between the 'correction temperature' and 75° F. (24° C.). In case there is a dispute between the purchaser and the seller, the observed initial boiling point figures obtained by all parties shall be revised according to the following formula:

$$R = O - \frac{\text{Correction temperature (°F.)} - 75}{3}$$

where R = the revised initial boiling point, and
O = the observed initial boiling point.

If all of the revised figures fall within the specification limit the gasoline in question shall be considered as passing; otherwise arrangements shall, if possible, be made to conduct a distillation test with the room temperature maintained between the limits of 70° and 80° F. (21° and 27° C.), inclusive."

Since pressure changes with altitude, the temperature points shall be corrected to 760 mm. (29.92 in.) by the use of the Sydney Young equation as follows:

For Centigrade readings:

$$C_c = 0.00012\ (760 - P)\ (273 + t_c)$$

For Fahrenheit readings:

$$C_f = 0.00012\ (760 - P)\ (460 + t_f)$$

where C_c and C_f = the corrections to be added to the observed temperature t_c or t_f respectively, and P = the actual barometric pressure in millimeters of mercury.

Table 1 is a convenient approximation of the corrections as calculated by the above equation.

TABLE 1

Temperature range °C.	Temperature range °F.	Correction* per 10-mm. difference in pressure °C.	Correction* per 10-mm. difference in pressure °F.
10 to 30	50 to 86	0.35	0.63
30 to 50	86 to 122	0.38	0.68
50 to 70	122 to 158	0.40	0.72
70 to 90	158 to 194	0.42	0.76
90 to 110	194 to 230	0.45	0.81
110 to 130	230 to 266	0.47	0.85
130 to 150	266 to 302	0.50	0.89
150 to 170	302 to 338	0.52	0.94
170 to 190	338 to 374	0.54	0.98
190 to 210	374 to 410	0.57	1.02
210 to 230	410 to 446	0.59	1.07
230 to 250	446 to 482	0.62	1.11
250 to 270	482 to 518	0.64	1.15
270 to 290	518 to 554	0.66	1.20
290 to 310	554 to 590	0.69	1.24
310 to 330	590 to 626	0.71	1.28
330 to 350	626 to 662	0.74	1.33
350 to 370	662 to 698	0.76	1.37
370 to 390	698 to 734	0.78	1.41
390 to 410	734 to 770	0.81	1.45

*To be added in case barometric pressure is below 760 mm.; to be subtracted in case barometric pressure is above 760 mm.

Physical and Chemical Laws and Principles Used in the Petroleum Industry

STANDARD UNIT FOR HEAT

Heat quantity is indicated by the change of temperature. The standard unit is the calorie, which means the quantity of heat required to change the temperature of 1 gram of water from 3.5° to 4.5° C. This is sometimes modified to mean calorie 1/100th the quantity of heat required to raise 1 gram of water from 0° C. to 100° C. Also, the normal calorie is for the specific temperature 14.5° C. to 15.5° C. The large calorie is the equivalent of 1,000 small calories.

The two important temperature scales are centigrade, 1/100th the difference between the temperature of melting ice and that of boiling water at 760 mm. pressure, and Fahrenheit, 1/180th for the same temperature spread. The freezing point of water is 0° C. or 32° F., and the boiling point 100° C. or 212° F., at the standard pressure of 760 mm.

Volatility of Fuel in Relation to Car Performance

I am confused as to what value the initial boiling point, the 10, 50, and 90 per cent and end point, are in relation to the combustion of gasoline in the automobile chamber. What is the value of these five points to the driver of an automobile?—F. M. B.

The most important inspection applied to gasoline is the distillation test, for it indicates the volatility essential to proper operation of the internal-combustion motor. Gasoline, being a mixture of hydrocarbons, boils, therefore passes into vapor at a series of temperatures. Uniform blending is shown by a smooth curve of the boiling point, whereas highs and lows cause irregularities and therefore suggest poor manufacture. An interpretation of volatility data has been made by T. A. Boyd. A part of his summary of the information is used in this discussion.

Volatility of gasoline influences (*a*) starting, (*b*) warming up, (*c*) normal operation, (*d*) crankcase dilution, (*e*) vapor lock and excessive evaporation.

The 10 per cent point is a good index of readiness of starting. "If the carburetor is one which supplies a 1-to-1 air-fuel mixture, and if the gasoline is one of conventional distillation curve, the ready-starting temperatures for some representative 10 per cent evaporated temperatures are approximately as follows:

10% evaporated temp., °F.	Min. engine temp. for ready start °F.
110	—20
125	—10
140	0
155	+10

Readiness of warm-up from the cold, or smoothness of acceleration during the period of warm-up, is naturally related to ease of vaporization. It is usually thought to be related more directly or in larger measure to the "front end" volatility, as represented by that part of the curve lying between 15 and 70 per cent evaporated.

The 90 per cent point, when corrected for loss and when interpreted in terms of the slope as well as the height of the distillation curve at that point, is considered to be a measure of total-vaporization characteristics. But a more precise measure of distribution characteristics is given by some combination of the percentages evaporated at different points on the distillation curve, such as at the 10, 50, and 90 per cent points.

The 90 per cent point, a fairly definite measure of total volatility, may serve to indicate a tendency to give crankcase dilution.

The initial boiling point, 10 per cent point, control ease of starting in cold weather. When considered with the vapor pressure these points give information relative to the vapor-lock tendency.

Reference: T. A. Boyd, Gasoline, Evaluation of Petroleum Products, American Society for Testing Materials.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired, postage should be included.

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SERVICE BEYOND PRICE AND SPECIFICATIONS

FIELD OPERATIONS

Summarizing the Week's Developments

ILLINOIS—Pipe lines serving the Salem field in Marion County cut their runs from leases 11,914 bbl. per day in the past week and production in the state was reduced 9,969 bbl. per day. The largest well of the week was completed in Section 32-2n-2e. It made a short-time flow at the rate of more than 13,000 bbl. per day. Production from the Devonian lime was extended southward into Section 5-1n-2e.

TEXAS: Gulf Coast—Several important structures are due for exploration. The Seabreeze pool in Chambers County and Rosenberg pool in Fort Bend County were extended.

Southwest Texas—A Tertiary Wilcox test in De Witt County was giving indications of oil, and five other Wilcox tests along the Jackson shore-line trend were close to critical depths. A new pay was uncovered in the Ben Bolt field in Jim Wells County at 4,910-18 ft. The first crude-oil well in the Wade City distillate pool in Jim Wells County flowed 245 bbl. a day through a 3/16-in. choke on potential test.

North and East Texas—A wildcat in northern Montague County looks like a pool opener. Sinclair Prairie Oil Co.'s pool opener in Montague County, reported last week, flowed at the rate of 2,043 bbl. per day. The second deep Pettit-lime test in the Chapel Hill area in Smith County, 4 miles from the discovery well, is a disappointment, but Sun Oil Co., which drilled it, will continue to test its big block.

West and Central Texas—A well that was regarded last week as a possible pool opener in Hockley County failed to produce when the plug was drilled, and is being deepened. Jones County may be given another Palo Pinto-lime pool in the western part of the Sandy Ridge area.

LA-ARK-TEX—A new sand was being tested in the Port Barre field in St. Landry Parish, coastal Louisiana. Production was indicated on the east flank of the old Jennings field at 10,768 ft. Prospects were good for a new pool in La Salle Parish, North Louisiana.

OKLAHOMA—A wildcat in Marshall County showed more than 5,000,000 cu. ft. of gas on drill-stem test, and had oil showing in cores. Viola-lime production was extended 1 mile westward in the St. Louis field, Pottawatomie County. An edge well in the Hobart pool was showing as a small producer. The Byars pool, McClain County, was due for an outlet with completion of a pipe line this week.

KANSAS—A new producing horizon was uncovered by an extension well in the Krier pool, Barton County. The Laton pool in Rooks County and Wilkins pool in Ellsworth County were extended. Outposts in the Roxbury pool, McPherson County, and Zenith field, Stafford County, gave promise of extending those areas.

MICHIGAN—A new pool was opened in Traverse lime 2 miles east of Holland, Ottawa County, and 7 miles from the nearest production. The discovery well flowed 192 bbl. naturally in 12 hours. It is the first discovery in the state this year.

CALIFORNIA—The western limits of the Dominguez field were defined by the Pongratz Petroleum Co. when its Callender-zone test cored gray sand in the eighth zone. The southern limits of the Northeast Coalinga field were extended by a 3,750-bbl. well at 8,294 ft. Two Rio Bravo field outposts were completed for good producers. The Canal field was further defined by a dry hole at 8,980 ft.

Completions in All Fields

(Week Ended March 2, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	54	7	5	66	671	585
Ohio	3	10	4	17	153	165
Indiana	2	1	3	6	61	23
Kentucky	4	2	3	9	63	95
Illinois	50	0	3	53	588	633
Michigan	12	0	16	28	241	190
Kansas	32	0	8	40	253	195
Oklahoma	15	1	12	28	291	295
Texas:						
North Central Texas	41	1	20	62	548	380
West Texas	39	0	0	39	411	341
Texas Panhandle	13	3	0	16	114	63
East Texas	3	0	0	3	54	155
East Central Texas	1	1	2	4	44	40
East Texas Border	0	0	0	0	9	18
Gulf Coast Texas	17	0	6	23	241	219
Southwest Texas	24	2	17	43	401	372
Total Texas	138	7	45	190	1,822	1,588
North Louisiana	10	2	0	12	97	78
Gulf Coast Louisiana	8	0	4	12	140	117
Total Louisiana	18	2	4	24	237	195
Arkansas	2	0	1	3	40	48
Montana	1	0	0	1	27	22
Wyoming	0	0	0	0	28	20
Colorado	0	0	0	0	5	2
New Mexico	21	0	1	22	145	113
California	18	0	1	19	190	163
Total United States	370	30	106	506	4,805	4,332
Total previous week	366	32	107	505		
Week ended Mar. 4, 1939	342	32	98	472		

Outstanding Fields—Highlights

(Week Ended March 2, 1940)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	22	39	4	3,315	1,274	42,050
Wasson-Bennett	19	83	8	8,834	676	33,635
Ector County	9	60	10	12,244	1,999	48,647
Pecos County	10	20	2	294	1,293	30,298
Jones County	10	16	5	1,848	592	8,200
East Texas	4	16	3	118	25,981	484,000
OKLAHOMA						
St. Louis	4	28	1	74	927	32,350
Cement	5	24	1	101	290	6,500
KANSAS						
Barton County	5	22	2	767	480	13,385
Ellis County	7	20	8	2,044	496	10,780
Rice County	5	19	3	982	1,435	33,055
Russell County	8	23	5	1,859	1,482	30,955
NEW MEXICO						
Lea County	8	49	14	5,811	2,394	97,490
Eddy County	18	60	7	3,372	523	15,810
LA-ARK-TEX						
Cotton Valley, La. (deep)	1	4	1	90	154	14,600
Magnolia, Ark.	1	6	0	0	93	19,675
Golden Meadow, La.	1	9	2	680	58	8,130
MICHIGAN						
Freeman-Redding	2	11	0	0	143	13,552
Kent County	2	27	2	1,370	281	18,089
CALIFORNIA						
Montebello	0	14	1	465	354	22,520
ILLINOIS						
Salem	14	139	25	72,239	1,702	246,101
Louden	3	40	8	1,741	1,351	73,676
Other basin fields	29	223	14	6,564	3,481	75,951
Old fields	....	.....	....	.....	.....	8,749
MISSISSIPPI						
Tinsley	1	7	1	380	23	6,815

Illinois, Indiana and Kentucky

By STAFF CORRESPONDENT

Pipe Lines Reduce Runs in Salem Field; Largest Well

CENTRALIA, Ill., Mar. 4.—Four important events were noted in the Illinois field in the past week in review. The largest initial producer yet drilled to the Devonian lime was brought in; Devonian production was extended into the southern part of the Salem field, by a well completed in Section 5-1n-2e, in which section the field was opened in 1938; the second Hardinsbug-sand well in the new Irons pool in White County was about twice as big an initial producer as the discovery well, and the steady rise in Illinois production was stopped temporarily, and a production decline of 9,969 bbl. per day was reported.

Devonian production was extended into the southern part of the Salem pool when Hollingsworth's No. 11 Kalkbrenner, 1,803 ft. from south and 443 ft. from east lines of SW¼ Section 5-1n-2e, flowed 95 bbl. the first hour after an acid treatment of 5,000 gal. but settled to 45 bbl. the third hour. It is a mile south of the nearest Devonian well in Section 32-2n-2e.

The largest Devonian well in the Salem field is in Section 32-2n-2e. It is Texas Co.'s No. 20 Wayland, NW. cor. of Section 32. It had Devonian-lime pay at 3,249-60 ft. and flowed 2,020 bbl. naturally in 5 hours. After a 5,000-gal. acid treatment it increased its production to 1,361 bbl. in 2½ hours, or at the rate of 13,061 bbl. per day. Texas Co.'s No. 14 W. T. Richardson, in SW¼ of Section 32 flowed 2,517 bbl. in 10 hours from a total depth of 3,410 ft. and Texas' No. 23 N. Lee, in SW¼ Section 28-2n-2e, flowed 733 bbl. in 3 hours at a total depth of 3,415 ft. Both wells had been acidized. Other late wells included Shell Oil Co.'s No. 1C Salem State Bank, NE cor. NE NW SE Section 20-2n-2e, which flowed only 212 bbl. in 24 hours after a 5,000-gal. acid treatment at 3,319-3,421 ft. and Tomberlin's No. 4 Young, SW cor. SE NE SE Section 20, which had Devonian at 3,335-3,431 ft. It flowed 120 bbl. in 10 hours naturally, but when acidized with 5,000 gal. it would not flow. Texas Co.'s No. 21 D. Young, SW SW NW Section 21-2n-2e, total depth 3,467 ft., was acidized with 5,000 gal. and flowed 384 bbl. in 24 hours. All the above wells were completed after the regular week's completion reports were assembled, and which showed 25 new wells in the Salem pool with a total initial production of 72,239 bbl.

Not including the above mentioned Devonian-lime completions and near completions, a total of 81 wells were producing from the Devonian in the Salem field alone. They had registered a total initial 24-hour production, actual or potential, of 312,059 bbl. or an average of 3,820 bbl. per well. The first 60 wells in the field averaged 3,997 bbl. per well, but a considerable number of relatively small wells in the past week's crop brought the average down.

Pipe-Line Runs Fall Off

Illinois' production for the week ended Saturday, March 2, fell off 9,969 bbl. per day from the total of the previous week. Salem alone declined 11,914 bbl. per day, indicating that the pipe lines were fed up with oil and were reducing their runs from leases. Salem averaged 246,101 bbl. per day; Louden, 73,676 bbl.; other basin fields, 75,951 bbl. and the old fields, 8,749 bbl.; a total of 404,477 bbl. The previous week's total was 414,446 bbl. per day.

Last week's crop of 53 completions in the state included only 3 dry holes, one each in Lee, Edgar and Crawford counties. In the Salem field 25 wells registered 72,249 bbl. in initial production; Sandoval pool, 1 well, 1,560 bbl.; Clinton County side of the Centralia pool, 3 wells, 1,140 bbl.; Louden, Fayette County, 8 wells, 1,741 bbl.; St. James pool, 2 wells, 308 bbl.; in White County, 3 wells, 1,475 bbl., including a second well in the new Irons pool, producing from Hardinsburg sand; 1 Wayne County well, 455 bbl.; 1 in Wabash County, 170 bbl.; 1 in Jefferson County, 107 bbl.; 5 in Richland County, 2,489 bbl.

In Lee County E. I. Otto's No. 1 Barner, SE NE SW Section 6-19n-10e, was reported abandoned at 300 ft., with no showings of oil.

White County

In White County W. C. McBride, Inc.'s No. 1 O. Johnson, SE NW NE Section 25-6s-8e, is the second well to produce from the Hardinsburg sand, in the Irons pool, but it is a larger initial producer than the discovery well of this pool. The McBride test had Hardinsburg at 2,493 ft., and pay at 2,527-38 ft., and flowed 1,213 bbl. in 24 hours through open casing. In the Storms pool Exchange Oil Co.'s No. 5 N. Storms, NE SE NW Section 14-6s-9e, had Waltersburg sand at 2,225 ft., total depth 2,265 ft. It flowed 60 bbl. of oil and 25,000,000 cu. ft. of gas per day. Exchange Oil Co. and Ohio Oil Co.'s No. 1 Rudolph School Community, SW SE SE Section 11-6s-9e, Waltersburg sand at 2,265-82 ft., flowed 200 bbl. of oil and 2,000,000 cu. ft. of gas per day.

In Wayne County H. H. Weinert, Inc.'s No. 1 Brach, C W½ NW NE Section 4-2s-7e, had McClosky pay at 3,277-92 ft., and flowed 455 bbl. in 20½ hours.

In Wabash County Mabee Drilling Co.'s No. 4 Bump, SE NW NW Section 9-2s-13w, started at 170 bbl. per day from Cypress sand at 2,415-45 ft., which had been shot with 40 qt.

In Jefferson County Carter Oil Co.'s No. 7 Carl Hall, NW NW NE Section 4-1s-2e, Dix pool, was shot with 10 qt. in Benoist sand at 1,958-62 ft. It pumped 107 bbl. of oil in 24 hours.

Devonian Wells in Salem Pool

Devonian-lime completions in the Salem pool in Marion County included the following 21 wells, initial production of which aggregated 71,201 bbl.; Magnolia Petroleum Co.'s No. 88 J. H. Young, SW cor. SE SE SE Section 20-2n-2e, pay at 3,384 ft., total depth 3,437 ft., flowed 668 bbl. naturally in 24 hours; acidized with 5,000 gal., it flowed 2,968 bbl. per day. Shell Oil Co., Inc.'s No. 8-C Salem State Bank, NE SW SE Section 20, pay at 3,390-3,411 ft., acidized with 5,000 gal., flowed 2,018 bbl. per day. Shell's No. 1-D Young heirs, NW cor. NE SE Section 20, pay at 3,382-3,404 ft., 5,000 gal. of acid, flowed 695 bbl. per day. Shell's No. 13-C Young heirs, NW SE SE Section 20, pay at 3,384-3,408 ft., 5,000 gal. of acid, flowed 1,234 bbl. Shell's No. 16-C Young heirs, SW NE SE Section 20, pay at 3,391-3,413 ft., 5,000 gal. of acid, flowed 1,464 bbl. per day. Texas Co.'s No. 24 N. Young, SW SE NE Section 20, pay at 3,381-3,420 ft., 5,000 gal. of acid, flowed 1,617 bbl. per day. Texas Co.'s No. 26 Young, SW cor. SE NE Section 20, pay at 3,372-95 ft., 5,000 gal. of acid, flowed 820 bbl. per day. Texas' No. 21 D. Young, SW SW NW Section 21-2n-2e, pay at 3,430-65 ft., 5,000 gal. of acid, flowed 384 bbl. Texas' No. 21 N. Lee, SW NW SW Section 28-2n-2e, pay at 3,375-3,415 ft., 5,000 gal. of acid, flowed 800 bbl. in 3 hours, rated at 5,600 bbl. per day. Texas' No. 22 N. Lee, NW NW SW Section 28-2n-2e, pay topped at 3,363 ft., total depth 3,448 ft., 5,000 gal. of acid, flowed 1,183 bbl. per day. Texas' No. 21 J. R. Young, SE NW NE Section 29-2n-2e, pay at 3,389-3,410 ft., 5,000 gal. of acid, flowed 3,144 bbl. per day. Magnolia's No. 23 J. R. Young, NW NW NE Section 29-2n-2e, pay at 3,395-3,412 ft., 5,000 gal. of acid, flowed 3,528 bbl. Ohio Oil Co.'s No. 19 M. J. Young, SE NE NW Section 29-2n-2e, pay at 3,400-23 ft., flowed 556 bbl. naturally in 12 hours; acidized with 5,000 gal., it flowed 4,375 bbl. per day. Texas' No. 12 W. Fossieck, SE NE SW Section 29-2n-2e, pay at 3,374-3,423 ft., 5,000 gal. of acid, flowed 6,539 bbl. per day. Texas' No. 14 W. Fossieck, SE SE NW Section 29, pay at 3,385-3,426 ft., 5,000 gal. of acid, estimated 24-hour production was 7,070 bbl. Texas' No. 3 Maxwell C, SW SW SW Section 29, pay at 3,320 ft., total depth 3,360 ft., 5,000 gal. of acid, flowed 382 bbl. in 8½ hours, rated at 1,382 bbl. per day. Shell Oil Co., Inc.'s No. 6-C E. T. Farthing, NW SW NE Section 32-2n-2e, pay at 3,302 ft., total depth 3,400 ft., 5,000 gal. of acid, flowed 5,460 bbl. Texas Co.'s No. 17 J. Friesner, NE SE NW Section 32-2n-2e, pay at 3,320-63 ft., flowed 224 bbl. naturally in 3 hours; acidized with 5,000 gal., it flowed an estimated 6,200 bbl. a day. Texas' No. 22-A McCollum, SW NW NE Section 32-2n-2e, pay at 3,350-85 ft., flowed 281 bbl. naturally in 3 hours; acidized with 5,000 gal., it flowed an estimated 6,440 bbl. per day. Texas' No. 20 K. Wayman, NW NW NW Section 32-2n-2e, pay at 3,294-3,330 ft., flowed 556 bbl. in 3 hours, naturally; acidized with 5,000 gal., it flowed 2,020 bbl. in 5 hours. Magnolia Petroleum Co.'s No. 83 J. H. Young, NE SE SE Section 20-2n-2e, pay at 3,332 ft., total depth 3,432 ft., flowed 810 bbl. in 18 hours, naturally; acidized with 5,000 gal., it flowed 1,080 bbl. per day.

Magnolia Petroleum Co.'s No. 75 J. H. Young, SE SW SW Section 21-2n-2e, McClosky lime at 1,991 ft., total depth 2,300 ft., swabbed 220 bbl. per day. Magnolia's No. 69 J. H. Young, NE SE NW Section 28-2n-2e, McClosky lime at 1,966 ft., total depth 2,085 ft., swabbed 120 bbl. per day. Texas Co.'s No. 25 W. Friederich A, C W½ SE NE Section 30-2n-2e, McClosky lime at 2,070-75 ft., pumped 245 bbl. a day. Gilson & Jennings' No. 4 R. Phillips, SE SW NW Section 7-1n-2e, Benoist sand at 1,835-66 ft., shot with 25 qt., it pumped 453 bbl. per day.

Fayette County

In the St. James pool in Fayette County, Texas Co.'s No. 7 M. Griffith, SW SE NE Section 25-6n-2e, had Cypress sand at 1,543-65 ft., and flowed 168 bbl. per day. Texas' No. 3 J. Sworm, SW NE SW Section 30-6n-

Illinois Fields

HIGH LIGHTS OF THE WEEK: The first 81 Devonian-lime wells in the Salem pool in Marion County averaged 3,820 bbl. per well in initial daily production. Last week's completions included a number of relatively small Devonian wells, but also the largest short-time initial flow yet reported from the Salem field, or from any well in the state. Pipe lines gave evidence that the new production was coming in too rapidly and in too large volume, and they cut runs from wells in the Salem area 11,914 bbl. per day. The second well in the new Irons pool in White County, producing from Hardinsburg sand, flowed almost twice as much oil as the discovery well.

Average daily production of new pools in the state, 395,728 bbl.; old pools, 8,749 bbl.; total, 404,477 bbl.

Total field operations, including rigs up and wells drilling, 448.

3e, shot with 7 qt. in Cypress sand at 1,535-60 ft., pumped 140 bbl. per day.

In the Louden pool in Fayette County, Lowrey's No. 1 Barnes, SE SW SW Section 31-7n-3e, shot with 30 qt. in Cypress sand at 1,547-75 ft., pumped 67 bbl. in 6 hours, and was rated at 140 bbl. per day. Carter Oil Co.'s No. 14 Durbin, NE SE NE Section 8-7n-3e, shot with 12 and 40 qt. in sand at 1,533-45 ft., swabbed 120 bbl. per day. Carter's No. 17 Irwin Hobbs, NE NE NE Section 6-7n-3e, 6-in. casing set at 1,532 ft., total depth 1,550 ft., shot with 15 and 10 qt., flowed 210 bbl. a day. Carter's No. 15 H. Durbin, NE SW SE Section 5-7n-3e, 6-in. set at 1,550 ft., total depth 1,584 ft., shot with 40 and 30 qt., swabbed 348 bbl. Carter's No. 16 Durbin, NW SE SE Section 5-7n-3e, shot with 20 qt. at 1,563,70 ft. and with 7 qt. at 1,510½-13½ ft., swabbed 228 bbl. per day from Cypress and Paint Creek sands. Carter's No. 2 Weaber-Horn, SE NE NW Section 28-8n-3e, shot with 10 qt. at 1,511-14 ft., flowed 252 bbl. Carter's No. 2 Clinton Miller, SE SE NE Section 16-8n-3e, shot with 60 qt. at 1,571-91 ft., and with 10 qt. at 1,503 ft., flowed 120 bbl. a day from Cypress and Paint Creek sands. Carter Oil Co.'s No. 1 Gregg, NW NE SW Section 13-8n-3e, shot with 40 qt. in Cypress sand at 1,469-82 ft., swabbed 396 bbl.

In Edgar County H. C. Hawthorne's No. 1 Hathaway, NW NW SW Section 17-14n-13w, was dry and abandoned at 1,000 ft.

Centralia Completions

In the Clinton County side of the Centralia field, Algona Oil Co.'s No. 3 Fortney, SE cor. Section 12-1n-1w. Devonian at 2,870-2,914 ft., acidized with 1,000 gal., flowed 580 bbl. per day. Egyptian Refining Co.'s No. 1 Besant, Devonian at 2,868 ft., pay at 2,898 ft., acidized with 2,000 gal., flowed 360 bbl. a day. Volkman and others' No. 1 Harrison, NW cor. NE SW Section 13-1n-1w, Devonian at 2,864 ft., pay at 2,902-09 ft., flowed 200 bbl. per day.

In Crawford County Seger and others' No. 1 Stewart, NE NE NE Section 27-6n-11w, was dry and abandoned at 2,398 ft.

Sandoval Area

In the Sandoval pool in Marion County, Big Four Oil & Gas Co.'s No. 1 Schaffnit, NW cor. Section 9-2n-1e, had Devonian-lime top at 2,923 ft., and pay at 2,971-72 ft., total depth. It was acidized with 200 gal. and flowed 1,560 bbl. of oil and no water, per day.

In Richland County Pure Oil Co.'s No. 3 Palmer-Taylor, SE SW SE Section 5-3n-9e, an old well plugged back from 2,977 ft. to 2,908 ft., pumped 193 bbl. of oil and 92 bbl. of salt water in 22 hours from Weiler sand at 2,571-88 ft., through perforations. Pure's No. 3 C. T. Montgomery C S½ NW NW Section 4-3n-9e, an old well plugged back to Weiler sand at 2,570-76 ft., pumped 443 bbl. of oil and 146 bbl. of salt water through perforations. Pure's No. 2 C. T. Montgomery, C W½ SW NW Section 4-3n-9e, plugged back to 2,660 ft., and casing perforated opposite Weiler sand at 2,574-76 ft., pumped 365 bbl. of oil and 251 bbl. of salt water per day. Pure also plugged back a number of other wells in the pool, but got little results from the Weiler sand. Pure's No. 1 J. H. Wachtel C, C W½ SW NW Section 7-4-10e, had McClosky pay at 2,910-25 ft., and flowed 872 bbl. per day through 1-in. choke. Pure's No. 5 J. H. Wachtel A, Rosiclare pay at 2,881-91 ft., flowed 1,054 bbl. in 20 hours through 1-in. choke. Pure's No. 4 Wachtel A, SW NE SW Section 6-4n-10e, pays at 2,854-58 ft. and 2,863-68 ft., casing perforated with 60 shots, flowed 410 bbl. per day. Pure's No. 2 Storer, SW NE NE Section 23-4n-9e, Cypress sand at 2,580-2,601 ft., shot with 25 qt., pumped 2 bbl. in 4 hours and then quit producing. Pure's No. 1 Hernick, NW SW SE Section 31-5n-10e, Fredonia top at 2,815 ft., total depth 2,905 ft., acidized with 5,000 gal., flowed 151 bbl. per day through 1-in. choke.

New Wildcats Reported

New wildcat operations reported in the past week were as follows:

In Clinton County Locke and others' No. 1 Hauseman, 110 ft. from south and 1,170 ft. from west lines of SE¼ Section 1-1n-1w, a Devonian test, rig up.

(Continued on Page 81)

WESTERN KENTUCKY

OWENSBORO, Ky., Mar. 4.—Four oil wells and three dry holes were completed in western Kentucky in the past week in review. The best of the completions produced 100 bbl. each initially. Little new work was started. Following shows the week's results:

Daviess County, Utica district: Foursome Oil Co.'s No. 1 Roy Hansford, 10-acre tract, moving in. J. C. Ellis and others' No. 1 J. F. Leet, Blue Lick water in McClosky lime at 1,737-41 ft.; total depth 1,741 ft.; plugging back to 1,430 ft. to make Barlow-sand well from 1,383-1,422 ft. C. E. Daugherty's No. 2 Rex O'Flynn, drilled deeper from Jett sand at 1,087 ft. through Jones sand, total depth 1,209 ft.; shot with 60 qt.; estimated at 100 bbl. per day. Stewart, Snyder & Sargant's No. 4 Dr. A. A. Westerfield, pumping 100 bbl., on the beam from McClosky pay at 1,706-11 ft., and Bethel sand at 1,440-63 ft., total depth 1,711 ft.

Hancock County, Maceo district: Ohio Oil Co.'s No.

(Continued on Page 74)

INDIANA

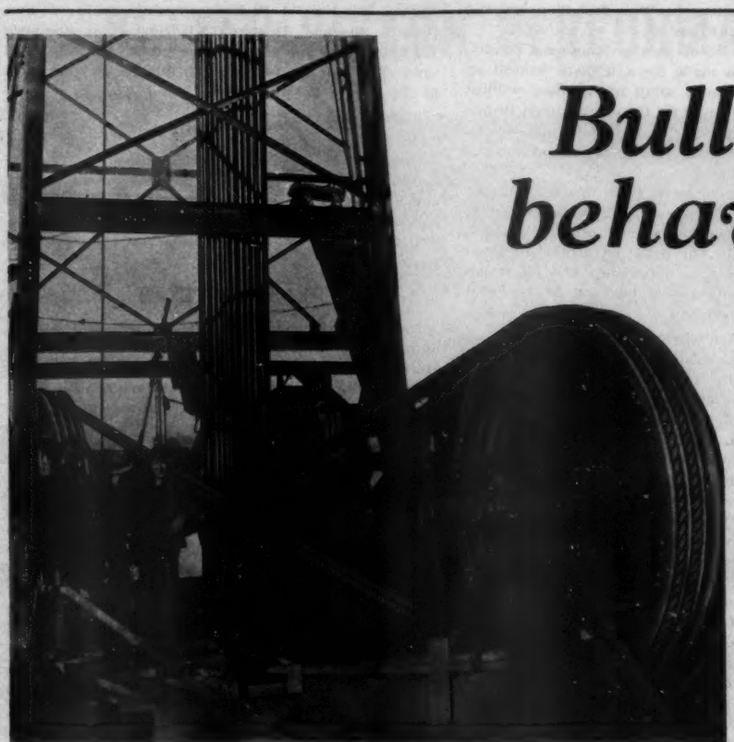
EVANSVILLE, Ind., Mar. 4.—Drilling operations in the northern and central counties in Indiana, which have been shut down for some time because of bad weather, are again active, and this week's wildcat report shows considerable progress throughout the state. The completions were few and nothing unusual was reported in the way of results.

In Posey County Joe Minton and others' No. 1 Hill, NW SE NW Section 7-4s-13w, total depth 3,013 ft., set 5½-in. casing at 2,569 ft. Somers & Egan's No. 2 Keck, SE NW NE Section 34-3s-14w, total depth 2,910 ft., plugged back to 2,568 ft., had a hole full of oil, was shot with 10 qt. at 2,555-66 ft., and the crew was cleaning out. O. F. Kelly and others' No. 1 Hahn, SE SW NW Section 1-7s-12w, was rigging up.

Gibson County

In Gibson County Continental Oil Co.'s No. 1 Kleiderer, NW SE NW Section 26-3s-14w, total depth 3,001 ft., was plugged back to 2,778 ft. and shot in sand at 2,762-78 ft. The crew was cleaning out. Fotiades and others' No. 1 Fleener, SE NW SE Section 21-3s-12w, had sand at 2,706-11 ft., total depth 2,714 ft. It was shut in for pipe line after flowing 14 bbl. per hour, naturally. A. L. Braden and others' No. 1 Simpson, NW SE NE Section 19-3s-11w, was drilling at 2,422 ft. It

(Continued on Page 81)



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North and East Texas

By
D. H. STORMONT

Second Chapel Hill Wildcat Makes Discouraging Show

WICHITA FALLS, Tex., Mar. 4.—New wildcat locations and the starting of previously announced wildcats featured North Texas' active exploratory campaign for another week. New locations were made for deep tests in Montague and Clay counties and previously announced wildcat locations in Wise and Clay counties were preparing to commence.

Four miles northeast of Bowie, Montague County, tentative location was made for a 6,500-ft. wildcat on Hill County School Lands, south of the deep wildcat being drilled by Continental Oil Co. on the Junia Brown tract, G. Nabours Survey. The well is planned by Marshall H. Kennady, Fort Worth, and is on a block of 3,500 acres.

Montague County's newest field opener, Sinclair Prairie Oil Co.'s No. 1 Howard, W. Wallace Survey, 1 mile west of Bonita, flowed 254 bbl. of oil in 3 hours, or at the rate of 2,043 bbl. daily, on official Railroad Commission gage early in the week. The oil tested 40 gravity, and production is believed to be from granite wash at 5,241-49 ft.

Sinclair Prairie, which holds about 1,500 acres around the discovery well, has made location for a west offset to the discovery well. The new test will be No. 1 David Doty, 5,600-ft. rotary hole, 1,480 ft. from the south and 420 ft. from the east lines of the J. N. Jones Survey, Abstract 396. Indications that the area will receive immediate development were seen when Sinclair Prairie Pipe Line Co. started construction of a 7-mile 6-in. pipe line from the discovery well to the company's main 8-in. trunk line at Nocona which will carry the oil to Fort Worth where the company has a refinery.

A possible discovery is being shown at a wildcat in northwestern Montague County near the Clay County line at W. B. Omohundro's No. 1 W. D. Seay in Section 32, Block 4, H.&T.C. Survey. The well cored conglomerate from 5,696 to 5,706 ft. at which depth a drill-stem test was taken early this week. On a 3-minute test 400 ft. of drilling mud with a good show of oil and gas was recovered. Pressure built up to 2,700 lb. At last report the operator was preparing to run another test. Location of this wildcat is about 10 miles west of Sinclair Prairie's No. 1 Howard, completed late last month to open a new field.

Southeast of the Omohundro test some 12 miles, in Block 58, E.T.R.R. Survey, Continental Oil Co. and others' No. 1 Junia Brown was being watched closely the first of this week. On Sunday casing was perforated above 6,843 ft. and on a short test 1,000 ft. of mud with show of oil and gas was recovered.

Clay County

Development of the Clay County pool, opened by Shell Oil Co., Inc.'s No. 1 Henderson, southwest corner of Clay County, was given further importance when F. T. Fulwood, S. D. Johnson and Mid-Union Drilling Co. announced location for No. 1 R. H. Oliver, 2 miles southwest of the discovery. No. 1 Oliver is 467 ft. from the south and east lines of Block 2646, T.E.&L. Survey. S. D. Johnson blocked the acreage and turned 400 acres to Mid-Union Drilling Co. for a 4,100-ft. test. The location is 437 ft. north of the Jack County line and ½ mile east of the Archer County line.

A Clay County wildcat being rigged up for drilling is Staley Oil Co.'s No. 1 D. J. Percifield, SE cor. Block 37, T. J. Belcher subdivision. It was spudded and shut down last summer. Location is about 5 miles northeast of the Burns field and about 5 miles southeast of the Halsell field. Contract depth is 5,000 ft.

Shell Oil Co., Inc.'s No. 1 Henderson, discovery well in the southwest corner of Clay County, was still testing. All water has been successfully shut off, but the well would not flow naturally. The pay zone is at 3,513-23 ft. The well swabbed 126 bbl. of oil in 9 hours prior to the unsuccessful flow test. It is located in Section 2605, T.E.&L. Survey.

Wichita County

Surface casing has been cemented at 150 ft. in E. C. Harlin, Jr.'s No. 1 I. H. Kempner, deep wildcat in Section 28, Block 1, Denton C.S.L. Survey, in southern Wichita County and about 8 miles north of the Hull-Silk field. The well is north of Lake Wichita and just west of the city of Wichita Falls.

Foard County

Ohio Oil Co. has erected derrick and is preparing to spud its 5,500-ft. projected wildcat test in Foard County and about 11 miles west of Crowell. It is No. 1 Rasberry, 1,980 ft. from the north and east lines of Section 26, S.P. Survey. The location was staked several weeks ago.

EASTERN TEXAS

DALLAS, Tex., Mar. 4.—The Chapel Hill area of Smith County held attention for another week as operators continued to test at the Sun Oil Co.'s No. 1 Huddle, Dickerson Survey, 4 miles south of Shell Oil Co., Inc.'s discovery oil well of 2 weeks ago. Prospects for deep Pettit-lime production at No. 1 Huddle remained uncertain as the week closed, the operators having been unsuccessful in three attempts to make drill-stem tests. Two tests failed due to mechanical trouble early in the week after which the core-hole from 7,983 to 8,019 ft. was reamed down and another test made. Recovery in this third test was 600 ft. of mud, with only a slight taste of gas. No oil was found. The tool was open 7 minutes during which time pressures built up to 575 lb. At the week's close operators were undecided whether to test the section further or plug back for testing in the Glen Rose lime where showings of oil were found.

Meanwhile Sun Oil Co. has started clearing location and moving in materials for a new well on the Chapel Hill structure. It will be No. 1 Harrison Everhart, P. Lively Survey, ½ mile southeast of Shell's discovery oil producer completed for 870 bbl. daily after an acid treatment. Regardless of the results of Sun's No. 1 Huddle, the company has announced it would drill sufficient tests to thoroughly explore its leases in the area.

Considerable lease trading has been carried on in the Chapel Hill area since the discovery's completion, prices ranging from $20 to $40 per acre.

10,000-Ft. Test

Houston County's deep wildcat which has set a new deep-drilling record for eastern Texas has reached its contracted depth of 10,900 ft. and drilling has halted pending further orders. Crew at the test was last reported taking sidewall cores below 10,000 ft. An electrical survey found the top of the Pettit zone at 10,658 ft. No showings were found in this zone which yielded production at Shell's discovery well in Smith County some 50 miles to the north. It is believed that operators will elect to plug back to an 8,500-ft. zone in the Glen Rose lime which indicated commercial production several weeks ago while drilling. The test is Shell Oil Co., Inc.'s No. 1 Dorsey, Sallas Survey, in the northern part of the county.

Wild Gasser

Anderson County's wildcat gas well, which blew out last week, was reported at the end of the week still blowing wild and uncapped. The wildcat is R. H. Williamson's No. 1 O. G. Rogers, W. M. Greenwood Survey, near the town of Elkhart. It blew in on February 18 when operators were attempting to dislodge stuck drill pipe. It blew in for an estimated 18,000,000 cu. ft. of gas coming from around the drill pipe. Railroad Commission engineers surveyed the well, however, several attempts to cap it thus far have failed. Although the well has only 600 ft. of casing in the hole, it has not yet started to crater. M. M. Kinley, Houston, Tex., wild-well fighter and crew, is cooperating with the Railroad Commission engineers in attempting to cap the well. It is bottomed at 5,407 ft. with gas coming from the Woodbine sand.

New Wildcats

Location was made for a new wildcat test in Nacogdoches County, a previously announced wildcat in Kaufman County was started, and a new wildcat was reported for Gregg County. Nacogdoches County's new test was made by Melrose Oil Co. as its No. 2 C. N. Wilson, 10 miles southeast of the town of Nacogdoches and on a 157-acre tract in the Hall & Mora Survey. It is 300 ft. southeast of the company's No. 1 Wilson, abandoned late in January at 2,100 ft.

Kaufman County's T. G. Shaw's No. 1 Angus Wynne, scheduled 6,800-ft. wildcat in the Cedarvale community and 8 miles east of Kaufman, was spudded during the week and last reported drilling below 1,500 ft. It is located in the southern part of the B. S. Newman Survey.

In Gregg County D. E. Whalen of Marshall is working toward completion of a block near the Harrison County line. The operator is reported preparing to turn the block to Fohs Oil Co. for a Paluxy test. Acreage already included in the block is mainly in the F. Thorn, I. Castro, D. Simpson and John Mathews surveys some 9 miles southwest of Hallsville.

EAST TEXAS FIELD COMPLETIONS

(1-hour gages)

Gregg County—Kilgore Area

H. L. Carter's No. 1 A. A. King, 3,640-41 ft., 25 bbl. Overton Refining Co.'s No. 2-B I.&G.N.R.R., 3,543-75 ft., 53 bbl. Ed Pace's No. 6 Trip Elder, 3,540-53 ft., 40 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Franklin County

In the Talco field Byrd-Frost, Inc.'s No. 23 E. L. Phillips, William Birdwell Survey, dry and abandoned at total depth of 4,320 ft.

Houston County

In the Grapeland field Grapeland Oil Co.'s No. 1 J. O. Brown, T. H. Leaverton Survey, 5,998-6,025 ft., 40,000,000 cu. ft. of gas.

Navarro County

A wildcat, W. H. Warren's No. 1 L. Gray, E. Powers Survey, dry and abandoned at total depth of 660 ft.

Titus County

In the Talco field V. A. Hughes' No. 3 Flannagan, George Dyer Survey, 4,285-4,345 ft., 460 bbl. daily, pumping.

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Eastern Field Report

By STAFF
CORRESPONDENT

Best of Week's Completions
A 9,446,000 Cu. Ft. Gasser

PITTSBURGH, Pa., March 5.—The test of the United Carbon Co. and others on the J. K. Grimm and others' farm in Steel district, Wood County, West Virginia, was shot through the Oriskany section at 4,751-63 ft. with 60 qt. and the gas volume was not materially helped, the final gage having been 119,000 cu. ft. a day. The gage had been as high as 133,000 cu. ft. a day. It was shot a second time with no improvement. It had not been decided whether it will be produced or not.

SOUTHEAST OHIO

The best oil well of the week was in Medina County, Southeast Ohio, where E. R. Edson and Son Co.'s test on the Samuel Brent farm, Tract 19, Lot 2, Chatham Township, was completed in the Berea grit at 478 ft. It produced 100 bbl. the first day after shot. In this township, Tract 10, Lot 5, Marine Trust Co. completed No. 6-A W. A. Shaw at 341 ft., and it is good for 5 bbl. a day from the Berea grit.

In Athens County A. D. Townsend completed a gas well on the S. E. McCall farm in Section 8, Carthage Township, in Maxton sand at 1,101 ft. It gaged 50,000 cu. ft. a day. In Fraction 2, Canaanville Township, Chaguell and others completed No. 6 fee in second Berea at 1,454 ft., and it has a volume of 40,000 cu. ft. a day.

In Knox County Sterl C. Brown and others completed a gasser on the Grover Hoss farm in Section 15, Morgan Township, in Clinton sand, topped at 2,540 ft. It gages 186,000 cu. ft. a day, total depth 2,576 ft.

In Licking County, Section 6, Newton Township, Ohio Fuel Gas Co. completed a gas well on the Orpha Hansberger farm in Clinton sand at 2,624 ft. It gages 3,000,000 cu. ft. a day. In this township, Section 17, Hoover Brothers' test on the O. G. Pound farm, total depth 2,628 ft., was good for 500,000 cu. ft. a day.

In Section 9, Mary Ann Township, Licking County, Tiston W. Patten and others completed No. 5 P. O. and Daisy Wright in Berea sand at 744 ft. and it is showing for a 2-bbl. pumper.

In Meigs County Sumner Oil & Gas Co. drilled a day hole on the Thomas Snowball farm in Lot 291, Sutton Township, through the Gordon sand at 2,345 ft.

In Perry County Palm Oil Co. completed a test on the Davis & Davis farm in the NW¼ Section 18, Clayton Township, in the Clinton sand at 3,410 ft. It is good for 25 bbl. a day before shot.

SOUTHWEST PENNSYLVANIA

In Armstrong County Pennsylvania Apollo Gas Co. completed a gas well on the Hulda Bleakney farm in Cowanshannock Township, at 3,772 ft. It gaged 56,000 cu. ft. a day from the Third Bradford sand. In this township, Peoples Natural Gas Co. is drilling at 880 ft. in the A. S. Rearick test, and made a location for a second well on the Lee Bell farm. T. W. Phillips Gas & Oil Co. is drilling at 3,121 ft. in the Harry Boyer test; at 1,760 ft. in No. 2 Jacob Boyer heirs, and at 2,197 ft. in the John McKinney test.

In Plum Creek Township the Phillips company is down 1,220 ft. in the James Cessnar test. Equitable Gas Co. is building rig on the Agnes Prugh farm. Shelocta Gas Co. is building rig on the Virginia Schaeffer farm.

In Boggs Township, Armstrong County, John Wray and others are deepening on the David White farm, starting at 1,172 ft., and have reached 1,500 ft. In Kittanning Township these operators are drilling at 655 ft. in the Benjamin Miller test. The Equitable Gas Co. is down 2,275 ft. in the W. D. Heilman test. In Kiskiminitas Township Apollo Gas Co. is drilling at 3,590 ft. in No. 2 Tressler. In South Buffalo Township, W. A. Baker is down 1,360 ft. in the James Bush test.

Westmoreland-Clarion-Indiana

In Westmoreland County Peoples Natural Gas Co. drilled a dry hole on the Jane McCutcheon farm in Washington Township through the Bradford sand to 3,835 ft. In Allegheny Township Apollo Gas Co. is drilling at 800 ft. in the D. M. Jones heirs test. Peoples Natural Gas Co. is cleaning out the H. F. Burgman test after a shot.

In Indiana County Equitable Gas Co. is down 3,220 ft. in No. 3 D. W. Raraigh, in South Mahoning Township. In Center Township T. W. Phillips Gas & Oil Co. is drilling at 3,284 ft. on R. & P. Coal Co. land. In Washington Township these operators have reached 120 ft. in the Fee and Tomb test and in White Township H. B. Deabenderfer test was a dry hole through the Bradford sand at 3,388 ft.

In Clarion County T. Swartzfager and others are drilling at 1,060 ft. in the C. A. Swartzfager test in Porter Township. In Limestone Township G. W. Hall has reached 1,467 ft. in the C. Fairman test. Owens Illinois Glass Co. is at 500 ft. in the Alb Deitrick test. In Red Bank Township Apollo Gas Co. is moving in tools for No. 3 Susan W. Kirk.

Greene-Fayette

In Greene County, Monongahela Township, Judson Bell and others completed a gas well on the E. R. Gabler farm at 1,396 ft. with Big Injun corrected to 1,266 ft., gas at 1,385 ft., and a gage of 4,000,000 cu. ft. a day with a rock pressure of 2,750 lb.

In Center Township, Greene County, Equitable Gas Co. deepening No. 2 J. M. Conklin, with the Big Injun topped at 2,202 ft., there was 220,000 cu. ft. of gas at 2,314-16 ft., and it is being tested. In Greene Township this company has started drilling No. 2 Hugh Keenan.

In Franklin Township, Greene County, the Waynesburg Home Gas Co., is down 2,700 ft. deepening No. 1 Nancy Rush. In Richhill Township O. I. Dille and others are spudding on the Madison Hughes farm.

In Fayette County Duquesne Gas Co. is drilling at 1,770 ft. No. 2 John Demaske.

Washington County

In South Franklin Township, Washington County, Union Gasoline & Oil Corp. is drilling at 900 ft. in the No. 828 C. T. Conn. Foley & Williams are fishing at 980 ft. No. 3 Rankin Clark. Harry Williams and others are deepening the No. 7 Jason Buchanan from 1,030 ft. and are at 1,321 ft. In Amwell Township Shivers and others are drilling at 2,330 ft. deepening No. 1 Thomas J. Horn.

In Somerset Township, Washington County, the test of Equitable Gas Co., Weir heirs farm, was drilled to 3,005 ft., and was dry. In Robinson Township R. M. Duden and others are down 1,850 ft. in the Herman Beiers test.

In North Strabane Township Keystone Drilling Co. completed the test on the H. W. Davidson farm; gas 2,422-26 ft.; production 163,000 cu. ft a day. The Fifth sand showed 50,000 cu. ft. a day.

In Allegheny County Equitable Gas Co. is drilling at 2,285 ft. in the Hickman test in South Fayette Township. In West Deer Township Walters and others made a location for No. 2 J. H. Flick. Robert Marshall made a location for No. 4 William Rittman. In Middlesex Township, Butler County, Larkin and others will drill No. 2 G. Jeuther.

Deep Tests

In Beaver County John T. Galey and others are deepening No. 1 James Tennis in South Beaver Township, and have reached 51 ft. below the top of the Oriskany sand topped at 4,599 ft. There was no more water at that depth which amounted to only 2 or 3 bailers a day. The sand at that depth was hard and fine and only about 2½ ft. of hole was made in a tour. This well is scheduled for the Clinton sand.

On Chestnut Ridge in North Union Township, Fayette County, no hole was made in the No. 2 J. H. Sorg nor the No. 1 Piedmont Coal Co. In South Union Township the Peoples Natural Gas Co. is clearing the location and building road for their No. 2 Piedmont Coal Co. just south of Route 40.

In Maryland, the New Penn Development Co., William E. Snee and others, have reached 5,530 ft. on the Humberson farm on the Accident dome in Garrett County, and the hole is giving much trouble. On Laurel Ridge, in Stewart Township, Fayette County, Pennsylvania, these operators and E. G. Mueller are drilling at 5,835 ft. in the Gregg L. Neel test with the hole caving some.

WEST VIRGINIA

No oil wells were completed in West Virginia during the week. Completions consisted of five gas wells and two dry holes. In Boone County Hope Natural Gas Co. completed the Spruce Boone Land Co.'s No. 7910, in Washington district, at 2,815 ft. It gaged 500,000 cu. ft. a day after a 60-qt. shot with some oil showing. In this district, the Owens, Libby-Owens Gas Department drilled No. 6 J. G. Roberts to 4,275 ft., and ft was dry and abandoned. In the same district O. B. Cunningham and others completed No. 2 Dellie Workman, deepened from 1,026 ft., with the Big lime at 1,290-1,448 ft. and a gage of 2,000,000 cu. ft. a day before a shot in the lime.

In Calhoun County W. H. Bickel drilled a dry hole on the H. V. Jackson farm in Center district through Injun sand to 1,789 ft.

In Clay County Pittsburgh & West Virginia Gas Co. completed No. 7718 J. F. Wilson, in Otter district, at 1,655 ft., the Salt sand and it is a very light gas well.

In Lincoln County Bradyville Gas Co. completed No. 3 Sweetland Land & Mining Co. in Laurel Hill district, at 3,105 ft. It gaged 390,000 cu. ft. a day after a shot, with pays at 2,250 and 3,100 ft.

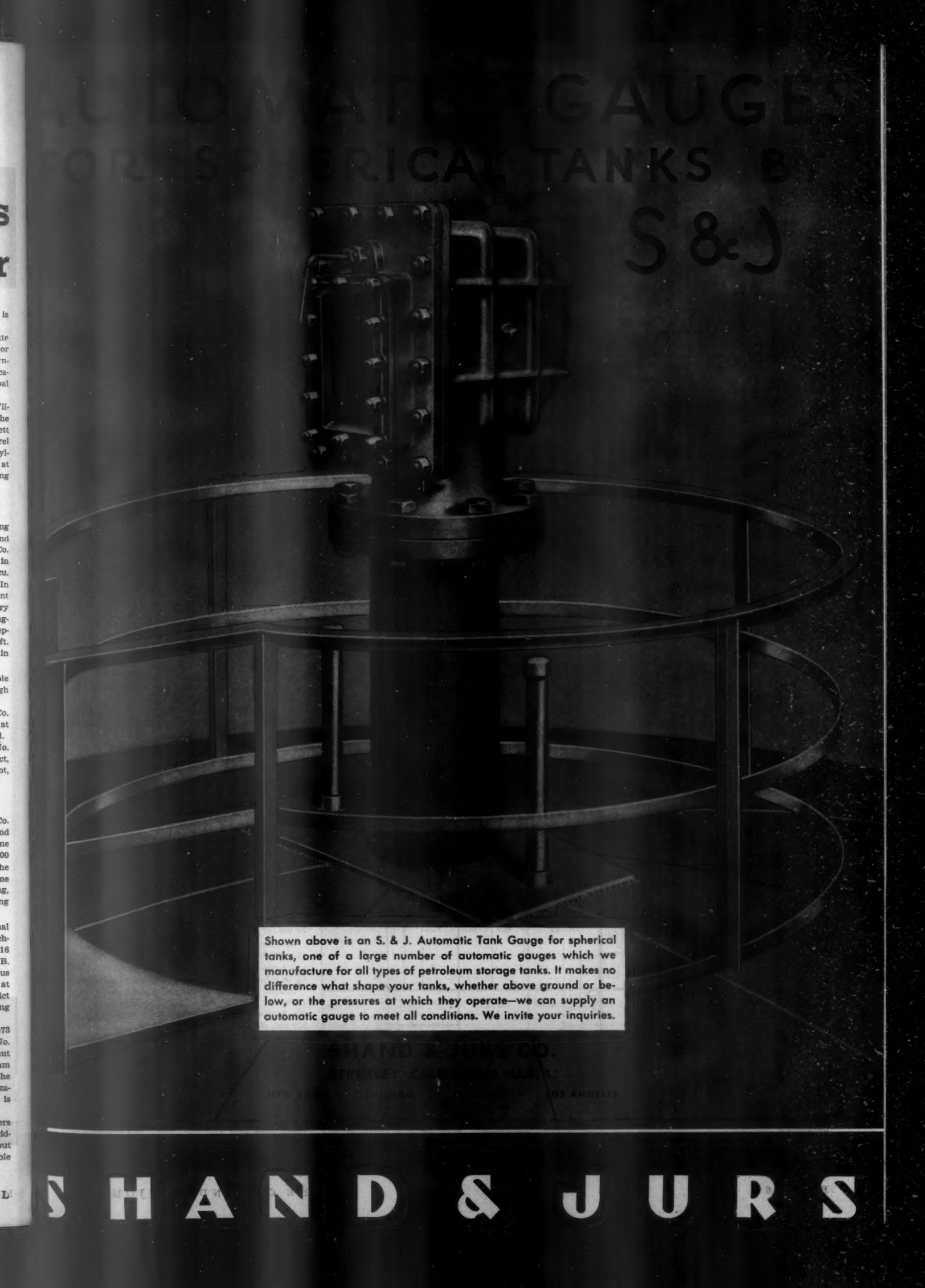
Oriskany Gas Field

In Poca district, Kanawha County, United Carbon Co. completed a gas well on the W. J. Bumgardner and others' lease at 5,036 ft. with the Corniferous lime topped at 4,853 ft.; Oriskany 4,954-93 ft. and 4,523,000 cu. ft. a day before the shot, which increased the volume to 9,446,000 cu. ft.; rock pressure 1,620 lb. Same company is drilling at 2,865 ft. No. 816 Louisa E. Long, spudding No. 824 Rosie Scott and others, and drilling at 859 ft. No. 825 W. C. Woodall and others.

In Poca district Columbian Carbon Co. has a final gage of 1,485,000 cu. ft. a day from the B. H. Richards test after a shot in Oriskany sand at 5,241-5,316 ft. Same company is drilling at 3,832 ft. in the Ida B. Mairs and others' test; at 5,179 ft., with Corniferous lime topped at 5,163 ft., in No. 1 W. S. Jones, and at 460 ft. in No. 1 V. E. King and others. In Elk district the Leonard C. Hanna test of this company is drilling at 3,900 ft.

In Poca district United Fuel Gas Co. is down 3,573 ft. in No. 4863 Mary E. Carney, and at 1,658 ft. in No. 4864 W. J. Glass and others. G. L. Cabot, Inc., is shut down at 729 ft. for cement to harden in No. 4 Putnam Co. The West Virginia Gas Corp. is down 710 ft. in the Leon Jones test and clearing location for the Elizabeth Thaxton and others' test. William O. Ziebold is rigging up the Hattie E. Clark test.

In Jackson County the test of Joe Rubin and others on the Henry Morrison farm in Grant district was acidized through the gas section of the Oriskany sand, but through a mechanical failure, the solution was unable to be removed quickly enough. It will be reshot.



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S H A N D & J U R S

Oklahoma Operations

By
DAL DALRYMPLE

Wildcat in Marshall County Has Gas on Drill Stem Test

Several new wildcat and extension tests in Oklahoma were announced the past week, as a number of other outposts neared decisions. Viola-lime production was found in a new sector of the St. Louis field, Pottawatomie County. An edge well in the Hobart area was showing as a small producer. Classification of the new Byars pool in McClain County was changed, and completion of a pipe-line outlet for the field was scheduled for this week.

Prospects for a discovery at Pure Oil Co.'s No. 1 Little, C W½ NE SE Section 28-5s-7e, wildcat in Marshall County, were considered favorable following a drill-stem test at the week end. In a core at 4,775-83 ft. there was a 7-ft. recovery with a showing of oil and gas. Halliburton tester was run, with packer set at 4,763 ft. and bottom of the anchor at 4,806 ft. First Bromide sand was tested at 4,763-4,806 ft., opened 15 minutes, and gas was estimated at 5,000,000 to 10,000,000 cu. ft., with no oil showing in drill stem. Bottom-hole pressure was 2,150 lb. Operators were drilling ahead below 4,823 ft. in sandy lime, expecting another Bromide sand at around 5,000 ft.

Jones Associated Oil Co. was preparing to start work at No. 1 Thompson, NW NW SW Section 28-15-5, wildcat 1½ miles northwest of the Davenport pool, Lincoln County. It is on a block of about 200 acres recently assembled by the company. Location is about ½ mile northeast of a dry hole in NE NE NW Section 32-15-5, which had water in Prue sand at 3,515-69 ft., total depth. Also northwest of the Davenport pool, Summitt Drilling Co.'s No. 1 Cleer, C W½ SE SW Section 6-15-5, was dry at 4,637 ft., total depth, and was due to plug back and test Oswego and Prue formations.

New Work at Hobart

Sinclair Prairie Oil Co.'s No. 1 Watkins, SE NE NW Section 19-7-17w, is location for an outpost about ¼ mile northwest of the Hobart pool, Kiowa County. Jim Henry and others' No. 1 Huff, SW SW NW Section 32-7-18w, wildcat northwest of Hobart townsite, was clearing location for a rotary test. Shell Oil Co.'s No. 1 Hutchens, NE NW SE Section 19-7-17w, on west edge of the Hobart pool, was averaging 5 to 9 bbl. of oil an hour after acid treatment and connections were being made for test. It was bottomed at 1,268 ft., and acidized in cherty-lime zone at 1,212-68 ft.

A. P. Cary's No. 1 Buckner, NW NW SW Section 27-1n-2w, is location for a 3,000-ft. wildcat test east of the Robberson and Tussy areas in southern Garvin County. T. I. Sanders of Marietta has assembled a block of 10-year leases in the area, in Sections 16, 18, 20, 21, 22, 26, 27, 28, 32, 33, 34, and 35-1n-2w. Lease and royalty holders in that general area include the Texas, Simpson-Fell, Magnolia, Atlantic, Sinclair Prairie, and Carter companies.

Helmerich & Payne, Inc.'s No. 2 Graham, C S½ S½ NE Section 12-1n-5w, is location for a 5,800-ft. test on the west edge of the Doyle pool, Stephens County.

Burns Oil Co. and others' No. 1 Henry, SW SW NW Section 29-7-4, uncovered Viola-lime production in the southwest part of the St. Louis field, Pottawatomie County, about 1 mile west of nearest Viola production. It found the lime at 4,230 ft., total depth 4,264 ft., and swabbed 60 bbl. of oil net in 1 hour and 45 minutes.

The Byars pool in southeastern McClain County was due to get an outlet late this week with completion of Stanolind Pipe Line Co.'s pipe line. Thirteen miles of line is being laid from the pool to a connection with the company's Pauls Valley - Fitts line. About two-thirds of the new line is 6-in. pipe, the remainder being 4-in. As of March 1 the Corporation Commission has placed the area in the unclassified group of pools and March allowable was set at 2,000 bbl. daily. It had an allowable of 400 bbl. in February, with the oil being trucked to the Bebee station in Pontotoc County. There are five producers in the pool and the sixth is near completion at Simpson-Roodhouse Drilling Co.'s No. 2 James, NW SE SE Section 9-5-3e.

Two new operations in the Oklahoma City field were reported at Phillips Petroleum Co.'s No. 1 Ethel, Block 24, Maywood addition, southeast of Stiles Park at Northeast Eighth and North Geary streets; and same company's No. 1 Holtz, Block 41, Maywood addition, at Northeast Fourth and Geary streets. Several other wells are being drilled in the vicinity.

Among the Wildcats

T. N. Berry's No. 1 Slick, NW SW SE Section 24-18-4, wildcat northwest of Cushing, Payne County, was plugged back and perforated at 2,883-2,955 ft., and flowed 200 bbl. of oil in 24 hours, with no water. Big lime was found at 2,883-2,900 ft.; Oswego lime 2,920-59 ft.; first Wilcox sand 3,687 ft.; second Wilcox sand 3,719 ft., total depth 3,720 ft.

Gardner Petroleum Co. and others' No. 1 Wetzel, NE SW SE Section 2-18-1e, wildcat north of the Ramsey pool, Payne County, found dry Wilcox sand at 5,049 ft., total depth 5,076 ft., perforated casing in Misener zone at 4,865-81 ft., but was dry and abandoned.

George Travis and others' No. 1 Teter, NW NW SW Section 24-17-2e, wildcat in northwestern Lincoln County, had Wilcox sand at 4,733 ft., total depth 4,779 ft., and was dry and abandoned.

Burke-Greis Oil Co. and Zephyr Drilling Co.'s No. 1 Brown, NE SE SE Section 19-16-10, Creek County wildcat, topped Dutcher sand at 2,819 ft., water intruded at 2,854 ft. and it was dry and abandoned at 2,889 ft. in sand.

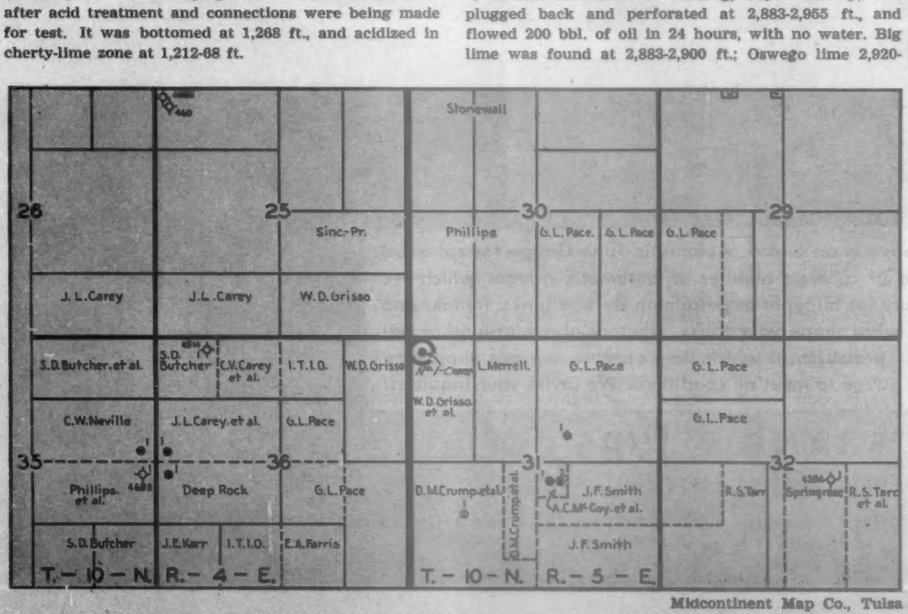
Starr Oil & Gas Co.'s No. 1 Bowlby, SW SW NW Section 29-5-4, wildcat in northwestern Pontotoc County, topped Wilcox sand at 2,890 ft., total depth 2,908 ft., and was dry and abandoned.

LeFlore Gas Co.'s No. 1 Hickman, NE NE SE Section 8-8-25, northwest of Poteau in LeFlore County, set 8-in. pipe at 4,265 ft. and was dry and abandoned at 5,972 ft., total depth.

Walters' No. 1 Wells, NE NW NE Section 15-16-2w, wildcat location near Guthrie, Logan County, was abandoned.

Roy Johnson's No. 1-B Baker, C S½ N½ SE NW Section 35-2s-6w, Stephens County outpost, was dry and abandoned at 561 ft., total depth.

New wildcats: C. P. Williams' No. 1 fee, NE NE SE Section 22-1n-4e, northeast of Sulphur, Murray County, drilling below 510 ft.; Tom Nix' No. 2 Warren, NE SE SE Section 4-6-8, Hughes County, drilling below 865 ft.; G. W. Shobert and others' No. 1 Parsons, SW SW NW Section 29-11-6, Seminole County, cellar and pits; Boydston's No. 1 Rebstein, C NW SE Section 11-16-9, Creek County, drilling below 175 ft.; Texas Co.'s No. 1 Burroughs, C E½ NE NW Section 11-17-1e, west of the Coyle pool, Payne County, rig; Kemp's No. 1 Meyer, NW SE SE Section 17-17-6, southeastern Payne County, rig; Malernee Oil Co.'s No. 1 Vanselous, C NE SE Section 13-25-1e, Kay County, location; Southwestern Oklahoma Oil & Gas Co.'s No. 2 Fultz, NW SE SE Section 10-6-18w, south of Hobart, Kiowa County, location; Magnolia Petroleum Co.'s No. 1 Kring, C E½ SE SW Section 12-21-3w, Garfield County, rig on ground.



Midcontinent Map Co., Tulsa

The King pool in Pottawatomie County was extended northwestward at Grisso Royalty Co. and others' No. 1 Crane, NW cor. Section 31-10-5. The West King pool is shown in Sections 35 and 36-10-4

Pottawatomie County

Indian Territory Illuminating Oil Co.'s No. 6 Weems, SW NW SW Section 21-7-5, St. Louis field, Pottawatomie County, topped Calvin sand at 2,776 ft., total depth 2,791 ft., set 7-in. pipe on top of sand and flowed 74 bbl. of oil in 24 hours.

Ray Dunnett's No. 1 Rodgers, NE SE SW Section 31-11-4, Shawnee pool, had Earlsboro sand at 4,440 ft., was bottomed at 4,484 ft., was shot, flowed 55 bbl. of oil in 6 hours, and made daily potential of 285 bbl.

Denver Producing & Refining Co. deepened and recompleted two old wells in the St. Louis district. Its No. 2 Houck, C N½ NW NW Section 1-6-4, produced 350 bbl. of oil daily at new total depth of 4,218 ft., and the No. 1 Tarter, SE NW NE Section 2-6-4, was recompleted for 50 bbl. of oil daily at total depth of 4,228 ft.

Same company's No. 3 Houck, NW NW NW Section 1-6-4, was a location. Alma Oil Co.'s No. 1 Spencer, NE SE SE Section 24-6-4, was building rig.

Pontotoc County

W. A. Delaney's No. 3 Shipley, SE NW NW Section 21-5-8, Allen field, Pontotoc County, had Glicrease sand at 2,481 ft., was bottomed at 2,654 ft., plugged back to 2,200 ft., set 7-in. casing at 2,168 ft., and produced 5,000,000 cu. ft. of gas daily, with 360 lb. rock pressure.

Minton's No. 3 Harris, SE SE NW Section 35-5-7, found Gilcrease series at 2,248 ft., and was dry and abandoned at 2,445 ft., total depth.

New work in Pontotoc County: W. B. Pine's No. 2 Randall, NE SE NW Section 35-5-4, cellar and pits; Senora Oil & Gas Co.'s No. 5 Tucker, NW SE NE Section 35-5-4, moving in rotary tools; Superior Oil Co.'s No. 6 Summers, SE NW NW Section 36-5-4, drilling below 635 ft.; W. A. Delaney's No. 1 Gilmore, NW NW NE Section 28-5-8, location; Sinclair Prairie Oil Co.'s No. 16 Ralls, CWL NW SE Section 28-5-8, rigging up machine.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ended March 2, and for the preceding week was as follows:

	Barrels	
	Mar. 2	Feb. 24
Allen	5,775	5,725
Billings	6,475	6,450
Burbank	6,950	6,825
South Burbank	8,525	8,525
Balance Osage	16,750	16,500
Blackwell district	3,725	3,700
Bristow-Slick	6,150	6,125
Chandler	1,450	1,425
Crescent	2,275	2,275
Cromwell	2,825	2,775
Cushing-Shamrock	9,350	9,325
Duncan	3,725	3,725
Edmond	4,175	4,125
Fish	3,400	3,350
Fitts	19,650	20,700
Jesse	2,200	2,200
Graham-Fox	2,125	2,125
Gray	750	750
Healdton	8,725	8,675
Hewitt	3,675	3,675
Keokuk	3,125	3,150
Konawa	1,225	1,175
Lucien	8,250	8,275
Moore	2,100	2,050
Oklahoma City	92,000	99,100
Olympic	2,475	2,425
Ramsey	4,650	4,625
Sasakwa	1,700	1,700
Sholem-Alechem	2,825	2,800
Seminole district:		
Bowlegs	7,350	7,350
Carr City	2,475	2,450
Dora	2,325	2,250
Earlsboro	4,425	4,400
South Earlsboro	650	625
East Earlsboro	2,200	2,200
Little River	6,700	6,650
East Little River	725	725
Maud	700	675
Mission	1,250	1,275
Seminole	7,375	7,250
East Seminole	1,175	1,175
Searight	2,325	2,325
Total Seminole	39,675	39,350
St. Louis-Pearson	32,350	32,150
Tatums	1,875	1,825
Tonkawa-Garber-Thomas	4,075	4,050
Wewoka	1,600	1,600
Yale-Jennings	3,525	3,500
Other pools	93,525	93,550
Total Oklahoma	413,650	420,300

Seminole County

Martin's No. 1 Earls, NE SE NW Section 33-9-6, Seminole County, was shot and pumped 40 bbl. of oil in 24 hours. Calvin sand was topped at 2,554 ft., total depth 2,575 ft.

Dodd's No. 1 Gross, NE SE NW Section 12-8-6, was a cellar.

Okfuskee County

Summitt Drilling Co.'s No. 1 Simmer, SW SE NW Section 18-10-11, Weleetka area, Okfuskee County, topped Booch sand at 2,300 ft., total depth 2,318 ft., set 5-in. casing at 2,302 ft., and flowed 313 bbl. of 41-gravity oil through ¾-in. choke in 24 hours. Winona Oil Co.'s No. 2 Hen, NE NW SE Section 16-10-11, had Cromwell sand at 2,894 ft., and was dry and abandoned at 3,055 ft., total depth.

Paul McIntyre and others' No. 1-A McMahon, NW NW SE Section 36-11-9, Okemah area, topped Wilcox sand at 3,765 ft., was bottomed at 3,821 ft., was shot and pumped 154 bbl. of oil in 24 hours, then pumped 111 bbl. in 24 hours. Gravity of the oil was 44°.

Summitt Drilling Co.'s No. 4 Steil, NE NW SW Section 18-10-11, was a location. Same company's No. 5 Steil, SE NW SW Section 18-10-11, was a rig.

Creek County

Salisbury's No. 1-A Pierpont, C SW SW Section 9-16-7, Shamrock area, Creek County, had Layton sand at 1,478-90 ft., total depth, plugged back to 1,488 ft., was shot and pumped 8 bbl. of oil daily. Von Sturm's No. 1 Beaver, SW SW NE Section 32-14-8, set 12-in. pipe at 100 ft., and later was abandoned.

Harwell's No. 3 Chisholm, NE NE SW Section 3-17-9, topped Prue sand at 2,051 ft., total depth 2,091 ft., was shot and pumped 42 bbl. of oil and 4 bbl. of water daily. Kirchner's No. 1 Baker, NW NE SE Section 20-17-9, had a hole full of water in Bartlesville sand at 2,574-2,690 ft., total depth, and was abandoned. Link Oil Co.'s No. 2 Mickey, SW SW NW Section 33-18-7, an old well deepened from 1,409 ft. to 2,739 ft., in Tucker sand, was dry and abandoned.

Scott's No. 1 Kremer, NW NE SE Section 18-18-10, was a machine.

Pawnee County

Portable Drilling Co.'s No. 1 Turner, SE NW SW Section 3-20-7, Hallett area, Pawnee County, had Cleveland sand at 2,141 ft., total depth 2,167 ft., was shot and pumped 45 bbl. of oil daily. Platter's No. 3 Bunch, NW SW SW Section 4-20-9, an old well bottomed at 2,760 ft., plugged back to sand at 660-95 ft., and produced 175,000 cu. ft. of gas, 210 lb. rock pressure.

Brown's No. 1 Schlessler, NW NW SE Section 21-22-7, in an old eastern Pawnee County area, topped Bartlesville sand at 2,584 ft., total depth 2,603 ft., and produced 30 bbl. of oil in 24 hours.

Carter County

Barrett's No. 20 Hinkle, SW SW NE Section 20-3s-2w, Wheeler pool, Carter County, set 8-in. pipe at 203 ft., total depth 252 ft., and pumped 3 bbl. of fluid daily, half oil and half water.

Caddo County

Olson Oil Co.'s No. 2 Rigney, NE SE NW Section 12-5-9w, Cement field, Caddo County, found sand at 4,306 ft., total depth 4,320 ft., flowed 17 bbl. of oil in 3 hours through tubing and made potential of 101 bbl. of oil daily. Gas gaged 2,300,000 cu. ft.

Peoples' No. 2 Wagner, SE NE SW Section 3-5-9w, had Noble-Olson sand at 3,305 ft., and was dry and abandoned at 3,331 ft., total depth.

Johnson's No. 1 Kahle, SE SW NW Section 3-5-9w, was dry and abandoned at 4,521 ft., total depth.

Ohio Oil Co.'s No. 2 Yule, SW NE SW Section 1-5-9w, spudded with rotary. Newsome's No. 1 Westerfelt, SE NW NW Section 31-6-9w, was a location.

Stephens County

George Pace's No. 3-C Montgomery, SW NW SE Section 11-2s-8w, Empire field, Stephens County, set 6-in. casing at 2,008 ft., was bottomed at 2,030 ft., and pumped 18 bbl. of oil daily.

Skelly Oil Co.'s No. 17 Glass, CSL SW SE Section 33-1s-8w, an old well, was deepened from 2,244 ft. to 2,265 ft., and pumped 3 bbl. of oil and 135 bbl. of water daily. Sunray Oil Co.'s No. 1 Hefner, SE SE NW Section 12-1n-5w, old well, was reworked and recompleted at 6,000 ft., total depth for 80 bbl. of oil daily.

Grady County

Magnolia Petroleum Co.'s No. 10 Harrison, NW NE NE Section 28-3n-5w, Knox pool, Grady County, set 7-in. casing at 2,317 ft., was bottomed at 2,392 ft., and flowed 32 bbl. of oil in 24 hours, through tubing.

Jackson County

Gulf Oil Corp.'s No. 4 Barrett, SW SW SW Section 10-1n-20w, Altus field, Jackson County, topped Pontotoc sand at 1,040 ft., set 7-in. pipe at 1,475 ft., total depth 1,614 ft., and pumped 17 bbl. of oil daily.

Ray's No. 1 Mathis, SE SW SE Section 32-1n-19w, was drilling below 1,360 ft.

New Operations

In McClain County Benedum-Trees Oil Co.'s No. 1 James, SW NE SE Section 9-5-3e, Byars pool, had dug cellar and pits.

In Payne County Blackwell Oil & Gas Co.'s No. 1 Shannon, SE NE SW Section 24-18-4, had rig on ground.

Olson Oil Co.'s No. 5 Osage, CWL NE NE Section 24-26-4, was a location in Osage County.

California Gasoline Sales Show 6.17 Per Cent Gain

SACRAMENTO, Calif.—Sales of gasoline throughout California continued to gain during January, it was reported by the state Board of Equalization. Sales amounted to 140,735,237 gal. on which a tax of $4,222,057.11 was levied, a gain of 6.17 per cent over the same month last year.

The consumption for last month was slightly under that of December, when 151,708,203 gal. were sold, to bring in a tax of $4,551,246.09. The December sales closed the year during which more than one billion gallons of gasoline were sold to set an all-time record for the state.

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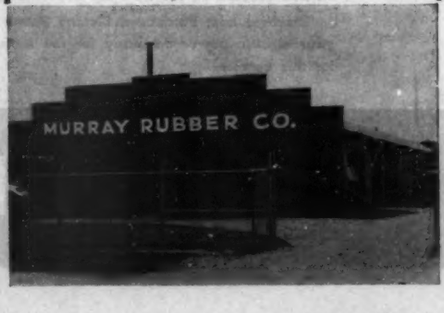

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North Louisiana, Arkansas

By
GEORGE WEBER

New Pool in Prospect East Of Urania Field, Louisiana

SHREVEPORT, La., Mar. 4.—Prospect of a possible new field discovery in La Salle Parish, North Louisiana, held interest in the tri-state area this week. The Placid Oil Co.'s No. 9 Louisiana Central, one of two active wildcats drilling offset locations, has set casing to test a show at 2,993 ft. The other test is drilling below 8,100 ft. Field drilling continued to be of a routine character in North Louisiana, with most activity in the shallow production area of Caddo Parish.

South Arkansas wildcatting saw an increase over the past week with several tests either revived or staked for early drilling. In Union County the semi-wildcat, Delta Drilling Co. and others' No. 1 Grace was completed making oil and salt water. Difficulty in completing an Atlanta field north-edge well was believed to be mechanical.

Atty. Gen. Greek L. Rice of Mississippi announced that the Mississippi Mineral Lease Commission had accepted the Phillips Petroleum Co.'s surrender of an exploration and development lease to approximately 600,000 acres of "submerged land" in the Mississippi Sound.

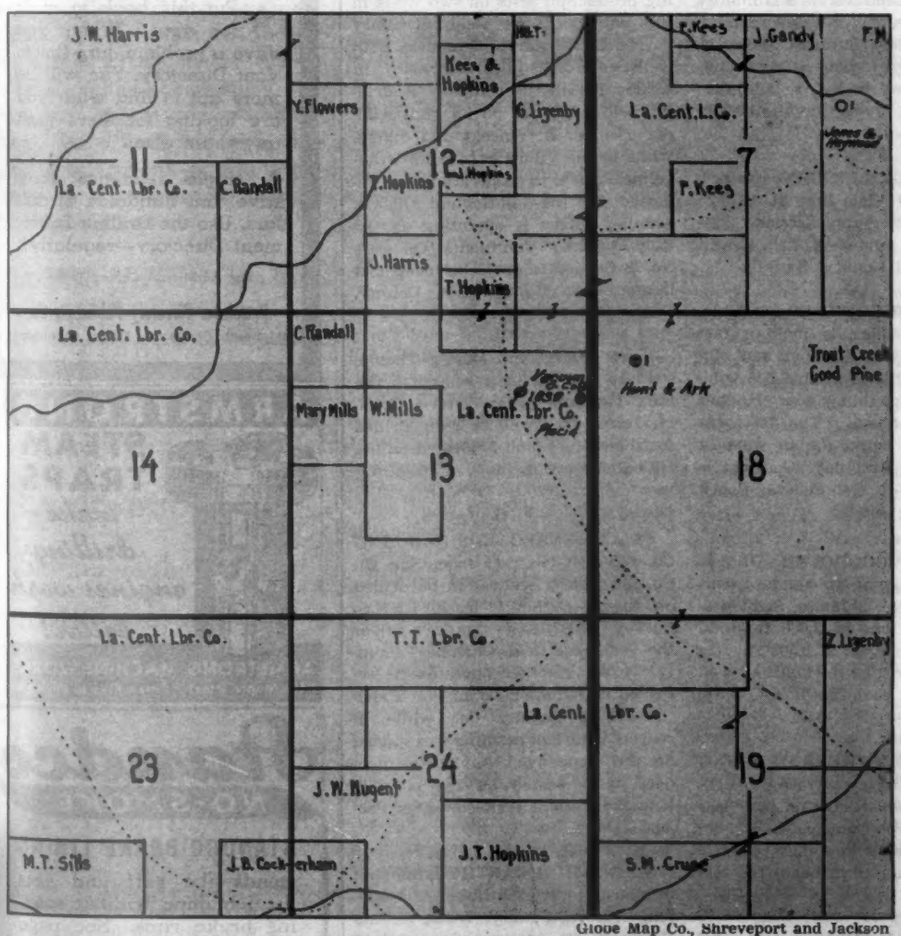
The area is located in Hancock, Harrison, and Jackson counties. The state had hoped for much-needed revenues from submarine oil production. Geophysical surveys had indicated the possibility of oil traps in strata beneath the gulf.

The company stated it had found nothing which would justify drilling. Part of its leased lands were surrendered 4 months ago.

La Salle Parish Wildcats

Located about 6 miles east of the Urania field, the Placid Oil Co.'s No. 9 Louisiana Central, Section 13-10-2e, this week cored from 2,884-2,903 ft., recovering 19 ft. of soft porous gray sand with a reported show of oil in all but the bottom 2 ft., which indicated salt water. An electrical log of the hole was made, after which the operator set 5½-in. casing. The well is bottomed at 2,993 ft. Drilling of the plug was expected over the week end.

The Placid test, as shown on the accompanying map, is in a southwest offset location to Hunt and Arkansas Fuel Oil Co.'s No. 1 Goodpine Lumber Co. The latter, a deep test, blew out at 3,030 ft. several weeks ago, and after a fishing job was plugged back and whipstocked out. The blowout at 3,030 ft. was the only show reported from this wildcat to date. Results of the Placid test this coming week will attract considerable interest, in addition to that evinced in the deep offset test.



Glove Map Co., Shreveport and Jackson

Placid Oil Co.'s No. 9 Louisiana Central, latest of a number of wildcats drilled by that operator in La Salle Parish, has set casing on sand at 2,884-2,903 ft. This wildcat, in a southwest offset position to the deep Hunt and Arkansas Fuel Oil Co.'s No. 1 Goodpine wildcat, may bring in another field. It is about 6 miles east of the old Urania field

Production by Pool

Estimated daily gross production of all companies for week ended March 1, 1940, follows:

NORTH LOUISIANA

	Barrels
Bellevue	480
Caddo light	5,140
Caddo heavy	2,180
Converse	510
Cotton Valley	*14,600
Cross Lake	5,700
De Soto and Red River	960
Elm Grove	280
Haynesville	2,650
Holly	65
Homer	2,865
Lisbon	5,315
Pleasant Hill	90
Rodessa	21,615
Sarepta-Carterville	†305
Sligo	1,785
Sugar Creek	600
Urania	2,350
Zwolle	1,860
Total	69,130

SOUTH ARKANSAS

Atlanta	350
Big Creek	5
Buckner	2,495
Champagnolle	1,280
Dorcheat	1,250
El Dorado	1,675
Lewisville	710
Lisbon	215
Magnolia	19,675
Miller County	230
Nevada	560
Rodessa	2,000
Schuler	18,530
Smackover light	1,750
Smackover heavy	13,630
Stephens	525
Troy	1,325
Urbana	910
Village	1,375
Total	68,990

*3,460 bbl. is distillate. †100 bbl. is distillate. Texas side of Rodessa, 23,005 bbl.

South Arkansas

The Delta Drilling Co. completed No. 1 Grace for an initial production of 180 bbl. of oil and 120 bbl. of salt water. Flow is through the testing tool and drill stem, with flowing pressure 350 lb. Old total depth was 6,819 ft., and present total depth, 3,468 ft. Seven-inch casing was perforated at 3,465-68 ft. The new well is in the Champagnolle area of Union County, east of El Dorado.

Standard Oil Co. of Louisiana spudded No. 1 Sturgis, a Miller County wildcat scheduled to go to the Smackover lime. The test is drilling on a geophysical high.

In Calhoun County, northeast of Smackover, British American Oil Co. staked location for No. 1 Freeman Smith Lumber Co., C SE NE Section 171-5-13. Two other wildcat locations were made during the week. In Nevada County, about 3 miles northeast of Prescott, Velma Oil Co. spudded and then shut down No. 1 Bemis, NW NE Section 23-10s-22w. St. Francis County, in the east central section of the state, has a wildcat rigging up, D. T. Hargrave and others' No. 1 J. T. Wellford, in the SE cor. NE NE Section 29-4n-1w.

Three inactive tests were resumed in Clark, Ouachita, and Sevier counties.

Difficulty is being met in completing Hunt Oil Co.'s No. 2 McWilliams, offset to producers on the south and east. The well would not flow when plugs were drilled for 5½-in. casing set at 8,250 ft., and after rocking with gas the operators attempted to acidize, meeting with no success when the well would not take the acid. It is believed the plug may not have been fully drilled.

(Continued on Page 87)

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Among the Drilling

E. E. KILBY, Yates Center, Kans., drilling contractor, completed a difficult fishing job at Brin & Nathan's No. 1 Decker, Section 1-61-38w, wildcat in Holt County, Missouri, and work was being resumed. The hole was shot just under a lodged bit at 1,007 ft., which dropped to 1,030 ft. where new hole had been made, and it was fished out. The well had been shut down since last September.

J. M. SEIP, of Seip & Seip, Richmond, Ind., drilling contractors, recently completed two shallow gas wells near Richmond, in Wayne County, Indiana; had a prospective oil well near completion in Hancock County, and was scheduled to start another test in that county and one in Randolph County.

JORDAN & SONS, Oaktown, Ind., have resumed drilling at Newton Pipe Line Co. and Norris & Gilmore's No. 1 Tharpe, SW SW SW Section 26-3n-4w, wildcat southeast of Shoals, Martin County, Indiana, after a shutdown of several weeks. It is 5 miles from nearest production in the old Loogootee pool.

HANNUM DRILLING CO. was preparing to test Viola lime at 3,816-25 ft. in No. 1 McComb, Section 22-24-11w, about ½ mile west of the Zenith field, Stafford County, Kansas.

G. & M. DRILLING CO., of Oklahoma City, Okla., is making fast progress at Pace, Gardner and others' No. 1 Cahill, Section 2-6-8, wildcat in the Spaulding area, Hughes County, Oklahoma. The test was spudded and cored Calvin sand at 814-34 ft. the first day. Contract is for 3,000 ft., to test Senora, Booch and Gilcrease sands.

SIMPSON-ROODHOUSE DRILLing Co. was rigging up standard tools to complete No. 2 James, Section 9-5-3, in Viola lime at 3,660 ft., total depth, with pipe set at 3,505 ft. If a producer, it will be the sixth oil well in the Byars pool, McClain County, Oklahoma.

PARKER BROTHERS DRILLING Co., of Tulsa, have contracted to drill the W. O. Allen wildcat on the Glass dome of Warren County, Mississippi. They are moving in a diesel-electric rig from Arkansas to begin the test by March 7.

ALLEN & MORRIS were attempting to extend production in the Sejita field, Duval County, Texas, as a production test was being made on Standard Oil Co. of Texas' No. 1 Rodriguez. Seven-inch casing was recently cemented in the well at 5,691 ft. Drilling was started on a new test in La Rosa field for Coronado Oil Corp. while a production test was scheduled to be made on the same company's No. 1 Welder, a wildcat located in the Seadrift area, Calhoun County.

HARRY L. EDWARDS DRILLING Co. is preparing to spud two new contracts recently received from Pan American Production Co. and Continental Oil Co. The wells are located in the Bay City and Abbeville fields, and both tests are scheduled to be drilled below 9,200 and 10,000 ft. Another operation is reported in the Hardin field, Liberty County, Texas, for Pan American Production Co.

NICKLOS DRILLING CO. is making production tests on two wells in the Bateman Lake field, St. Mary Parish, Louisiana, for Texas Co. Both wells were drilled below 11,000 ft. In Acadia Parish the company is drilling below 5,100 ft. on its joint wildcat with M. L. Vincent and others, while in the Villa Platte field, Evangeline Parish, two operations are reported for the Continental Oil Co. Another rotary is operating on the Gulf Coast for Continental Oil Co.'s No. 1 Bender, a projected deep test located in Montgomery County, Texas.

JOHN MAYO and Martin Thompson are moving in a rotary to the East Telferner area, Victoria County, Texas. The well is being drilled for themselves, and is located on the Hulbalak lease in the V. Garcia Survey.

FALCON-SEABOARD DRILLING Co. received contract from Sun Oil Co. for a deep wildcat to be drilled on the C. C. Smith lease, T.&N.O. Survey No. 82, about 3 miles north of the Seabreeze field, Chambers County, Texas. Another operation is reported in Jefferson County for Fidelity Oil & Royalty Co., while in coastal Louisiana, drilling was started on the company's No. 1 Breaux, a deep test, located on the old Napoleonville dome in Assumption Parish.

GLENN H. McCARTHY is moving in a large rotary southwest of Angleton, Brazoria County, Texas, for his No. 1 W. B. Munson, a projected deep test located on the W. B. Munson lease in the Samuel Carter Survey. Drilling continues below 11,000

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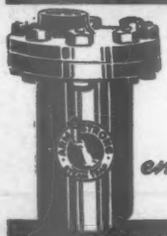

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ft. on the contractor's two wells in the Chocolate Bayou field, while two other operations are reported in the Anchor field.

HOUSH & THOMPSON have started drilling operations on a contract recently received from Roderick & Tower. The well is a wildcat test situated in Livingston Parish, coastal Louisiana.

JACK FRAZIER is nearing the Wilcox pay on Bunte Brothers' No. 1 Earnest, a wildcat located 7 miles southwest of Beeville in Bee County, Texas. Another operation was recently started in the North Cheek field, Jefferson County, for the Strake Petroleum Co.

UNGREN & FRAZIER, contractors and operators of Abilene, Tex., have been given contract for a new wildcat test in eastern Jones County, West Central Texas. It will be Oil States Exploration Co.'s (Merry Brothers & Perini, Abilene) No. 1 S. L. Hodges, located 220 ft. from the north and west lines of S½ Section 6, Block 15, T.&P. Survey, 1½ miles east of the Lewis field. Rig was being moved to the location last week.

MID-UNION DRILLING CO., Tulsa, will drill a 3-mile-south outpost to the Clay County, Texas, pool opened by Shell Oil Co., Inc., in the southwest corner of the county. The test has been tentatively located on the Oliver tract in the SE cor. Section 2646, T.E.&L. Survey. The operation was announced by P. T. Fulwood, Jr., S. D. Johnson, and the Mid-Union Drilling Co., the latter having acquired 400 acres of the block for a 4,100-ft. hole. Spudding date was not announced.

GIBSON & HENDERSON, drilling-contracting firm of Royalty, Tex., has received contracts from Acme Oil & Royalty Co., of Midland, Tex., and Oklahoma City, Okla., for a six-well drilling campaign in the Shipley field of Ward County, West Texas. J. D. Tompkins, president of Acme Oil & Royalty Co., announced that a 70-acre tract out of the east 160 acres of Section 16, Block 5, H.&T.C. Survey, Ward County, had been acquired in a farmout deal with Shell Oil Co., Inc. The six locations have been staked on a 10-acre spacing pattern and contractor will start at once moving in material. The first location to be drilled will be the west corner of the 70-acre tract, Shell having production on the remaining 90 acres of the lease. Shell has retained rights below 3,050 ft.

WALTER G. RAY, drilling contractor of Shreveport, La., will move his rig from Oliphant Oil Co.'s No. 1 Rowe upon its completion this week in the Magnolia field of Columbia County, Arkansas, to a wildcat location in the same county, where he will drill James M. Forgotson's No. 1 Dendy south of Village.

F. W. MARTIN, drilling contractor of Shreveport, La., has two rigs active in South Texas. After completing two wells and one dry hole for Superior Oil Corp. of Texas in the West Ranch field, Jackson County, his crews are coring below 5,575 ft. in No. 3 Drummond and are rigging up on No. 1 Miller in the same area.

J. W. HARRIS, JR., drilling contractor of Wichita Falls, Tex., is moving rig to the recently staked location by Deep Rock Oil Corp. in southwestern Archer County, North Texas. It is No. 1 J. McCarty, a 5,200-ft. rotary project located in NW Cor. of C. Brown Survey, Abstract 20, Block 21, 5 miles northeast of Megargel.

W. B. OMOHUNDRO, contractor and operator of Wichita Falls, Tex., has received two new drilling contracts, work on both of which has already started. Derrick is up and rig is being moved in for E. C. Harlin, Jr.'s No. 1 H. Kempner, scheduled 5,200-ft. wildcat in the southeast part of Block 28, League 1, Denton County School Lands, 2 miles southwest of Wichita Falls. At the contractor's other job pits have been dug and derrick is being erected. It is for Ramsey Petroleum Corp. and is No. 1 W. H. McGee, a 5,000-ft. test in the C. Davis Survey, Abstract 202, about ½ mile south of the town of Montague in Montague County, Texas.

PENROD DRILLING CO., of H. L. Hunt, Dallas, Tex., is drilling two wildcats in offset positions in La Salle Parish, Louisiana. Hunt Oil Co.'s No. 9 Louisiana Central has set casing at 3,000 ft. for a possible new field discovery, and Hunt and Arkansas Fuel Oil Co.'s No. 1 Goodpine Lumber Co., nearby is drilling below 8,100 ft.

GOLDING & FARRIS DRILLING Co. is moving a rotary to the McInnis area, East Baton Rouge Parish, coastal Louisiana, for the company's No. 1 George Paulet in Section 57-7s-1e.

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Kansas Developments

By
DAL DALRYMPLE

New Pay at Krier Uncovered; Total Potential at New High

The customary discoveries and extensions in Kansas oil fields were overshadowed the past week by a wave of new work, more than 40 new tests, including several wildcats, being reported. It was the busiest week in the Sunflower State to date this year. A new pay zone was discovered in the Krier pool, and extensions were indicated in the Roxbury, Laton and Wilkins pools.

Texas Co.'s No. 1 Janssen, C E½ NE SE Section 31-16-11w, not only extended the Krier pool in Barton County ¾ mile southward, but gave the area a new producing horizon. It found Arbuckle lime at 3,332-41 ft., total depth, was acidized and made potential of 534 bbl. of oil. Other production in the pool is from Basal sand. East offset was staked by Sinclair Prairie Oil Co. Gulf Oil Corp.'s No. 1 Joseph, NW NW SW Section 29-16-11w, was reported to have made potential of 1,634 bbl. in Basal sand at 3,307-15 ft. A failure was recorded between the Basal and Arbuckle producers.

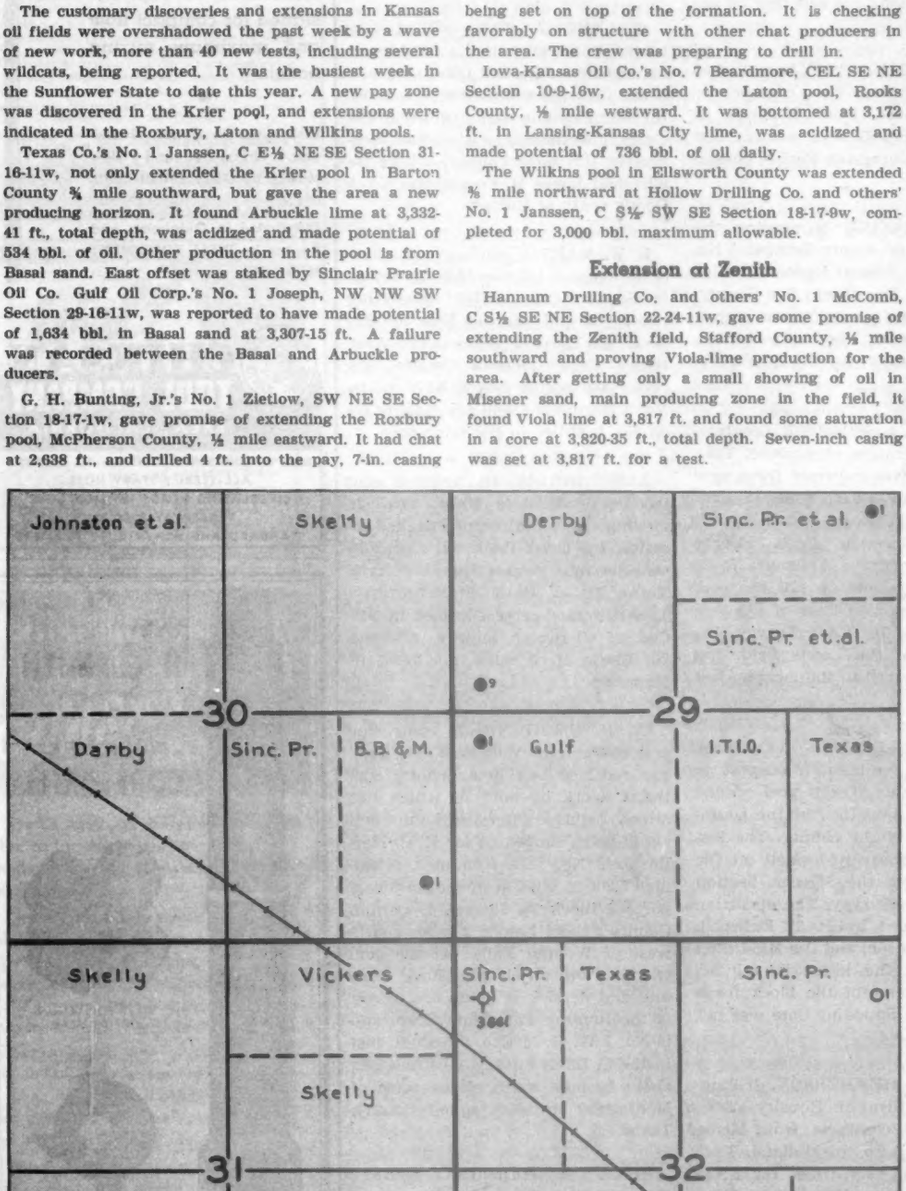
G. H. Bunting, Jr.'s No. 1 Zietlow, SW NE SE Section 18-17-1w, gave promise of extending the Roxbury pool, McPherson County, ½ mile eastward. It had chat at 2,638 ft., and drilled 4 ft. into the pay, 7-in. casing being set on top of the formation. It is checking favorably on structure with other chat producers in the area. The crew was preparing to drill in.

Iowa-Kansas Oil Co.'s No. 7 Beardmore, CEL SE NE Section 10-9-16w, extended the Laton pool, Rooks County, ½ mile westward. It was bottomed at 3,172 ft. in Lansing-Kansas City lime, was acidized and made potential of 736 bbl. of oil daily.

The Wilkins pool in Ellsworth County was extended ⅝ mile northward at Hollow Drilling Co. and others' No. 1 Janssen, C S½ SW SE Section 18-17-9w, completed for 3,000 bbl. maximum allowable.

Extension at Zenith

Hannum Drilling Co. and others' No. 1 McComb, C S½ SE NE Section 22-24-11w, gave some promise of extending the Zenith field, Stafford County, ½ mile southward and proving Viola-lime production for the area. After getting only a small showing of oil in Misener sand, main producing zone in the field, it found Viola lime at 3,817 ft. and found some saturation in a core at 3,820-35 ft., total depth. Seven-inch casing was set at 3,817 ft. for a test.



Midcontinent Map Co., Wichita

Texas Co.'s No. 1 Janssen, Section 31-16-11w, extended the Krier pool, Barton County, ¾ mile southward, making potential of 534 bbl. of oil at total depth of 3,341 ft. in Arbuckle lime. An intermediate well, Sinclair Prairie Oil Co.'s No. 1 Dolecheck, C W½ NW NW Section 32, was dry and abandoned at 3,361 ft. Gulf Oil Corp.'s No. 1 Joseph, NW NW SW Section 29, made potential of 1,634 bbl. of oil at 3,315 ft., total depth. Skelly Oil Co. was starting No. 1 Eldfeld, at 680 ft. from the south and 330 ft. from the east lines of S½ NE¼ Section 30

New outposts included: Mitchell Drilling Co.'s No. 1 Sangster, CEL SE SW Section 11-20-8w, ¼ mile northwest of the only oil well in the Lyons pool, Rice County, moving in material; Holl & Branine's No. 1 Warner, SE SW NW Section 15-20-10w, ⅛ mile north of the Raymond pool, Rice County; Reid and others' No. 1 Axton, SE NW NE Section 17-28-11, in the Severy area, Greenwood County; Devonian Oil Co.'s No. 1 Knapp, CSL SE SW SW Section 11-34-5, wildcat, northwest of the Rahn pool, Cowley County, rotary derrick; R. Hess and others' No. 1 Kincaide, SW NW NW Section 30-5-17w, wildcat in Phillips County, north of the Faubin pool, cellar; M. E. Trapp and others' No. 1 Gross, C N½ NW NW Section 5-15-13w, ¼ mile east of the Coralena pool, Russell County, cellar; W. I. Southern, Inc.'s No. 1 Berrick, C S½ SW SE Section 6-15-13w, ⅝ mile northeast of the Coralena pool, Russell County, moving in material; Vickers Petroleum Co.'s No. 1 Behnke, CWL NW NW Section 25-18-10w, ¼ mile north of the East Orth pool, Rice County, location; Hannum Drilling Co.'s No. 1 Dirks, C SW¼ Section 18-18-15w, ¼ mile north of the Otis-Albert area, Barton County, location; Atlantic Refining Co.'s No. 1 Stoltenberg E, CNL NW SE Section 27-16-10w, ½ mile south of Stoltenberg pool, Ellsworth County; and Phillips Petroleum Co.'s stratigraphic core-drill test, NE NE SW Section 27-3s-18, Brown County, to be drilled for geological information.

Total potential for all Kansas wells reached a new high on February 20, the Corporation Commission reported. The 19,744 producing wells in the state on that date had total potential of 5,013,093 bbl. daily, the commission reported. This was the first time the potential passed the 5,000,000-bbl. mark.

The Corporation Commission has taken under advisement the allowable for March, after purchaser nominations totaling 180,193 bbl. were taken by Theodore A. Morgan, conservation director. This represents the estimated market demand of the major buyers in the state. Mr. Morgan said the estimated "consumptive" demand for Kansas crude in March was approximately 165,000 bbl. daily, about 12,000 bbl. more than the Bureau of Mines estimate of 153,900 bbl. He said estimated crude purchases by major buyers for April totaled 182,212 bbl. and for May totaled 182,441 bbl.

Wildcat Operations

Webb & Wakefield's No. 1 Schmidtberger, C N½ NE SW Section 17-13-15w, Russell County wildcat, topped Arbuckle lime at 3,308 ft., had a showing of oil in first 22 ft., but was dry and abandoned at 3,353 ft., total depth.

I. W. Murfin's No. 1 St. Aubyan, C S½ SW SW Section 1-15-15w, wildcat in Russell County, was dry and abandoned at 3,259 ft., total depth. It topped Arbuckle lime at 3,238 ft. and had a trace of oil in first 4 ft. of lime.

Shell Oil Co., Inc.'s No. 1 Frazee, NE SE NE Section 33-25-8w, wildcat in Reno County, had Arbuckle lime at 4,240 ft. and was dry and abandoned at total depth of 4,280 ft.

National Refining Co.'s No. 1 Smith, NE NW SE Section 9-28-5, Butler County wildcat, had Misener sand at 3,160 ft., Simpson formation 3,163 ft., Arbuckle lime 3,198 ft., and was dry and abandoned at 3,213 ft., total depth.

Polhamus and others' No. 1 Noone, NW NW SE Section 18-18-3, wildcat in Marion County, entered Hunton lime at 2,734 ft., Viola lime 2,860 ft., the hole filled with water and it was abandoned at 2,907 ft., total depth.

Roth Oil & Gas Co.'s No. 3 Gretsinger, SW NE NE Section 15-31-4, was completed at 3,466 ft., opening an Arbuckle-lime pool about 1½ miles northeast of the Hittle pool in Cowley County. Temporarily completed

last fall as a 10-bbl. Arbuckle producer, it was reworked, acidized and on completion test produced 104 bbl. of oil, with 50 per cent water. Other production in the vicinity is from Bartlesville sand.

Estimated Daily Production

Estimated daily production for Kansas for the week ended March 2, and for the preceding week was as follows:

	Barrels	
	Mar. 2	Feb. 24
Oxford City	750	800
Burrton	9,200	9,250
Ritz-Canton	4,150	4,300
Graber	3,000	3,400
Hollow-Nikkel	1,550	1,600
Lerado	1,400	700
Voshell	1,700	1,650
Wellington	1,750	1,800
Ellsworth County:		
Lorraine	1,900	1,900
Other pools	1,595	2,125
Rice-Barton counties:		
Bloomer	4,050	3,650
Chase	5,050	4,900
Geneseo	2,600	4,450
Raymond	500	500
Silica	12,150	10,800
South Silica	2,250	2,400
Keesling	500	850
Wherry	3,750	3,350
Miscellaneous Rice	8,505	4,450
Miscellaneous Barton	7,085	6,630
Trapp district	12,300	14,100
Balance Russell County	18,650	20,100
Sedgwick County	3,150	3,250
Ellis County:		
Bemis	6,400	7,100
Miscellaneous	4,375	5,370
Kingman County	1,040	860
Stafford County	6,255	4,570
Greenwood County	8,100	8,250
El Dorado	7,550	7,600
Other fields	35,645	32,495
Total Kansas	176,900	173,200

Ellis County

Completion of producers with large theoretical potentials continues the rule in the rich Bemis and Burnett fields in Ellis County, several being added in the last 2 weeks. Frequently potentials determined by depthograph, echometer, or similar methods, exceed the maximum allowable potential, and in such cases only the 3,000-bbl. maximum allowable potentials are reported. There have been cases where Bemis or Burnett single-well potentials have ranged upward to 30,000 and 50,000 bbl. by these calculations. Recent completions include the following Ellis County wells:

Darby Petroleum Corp.'s No. 5 Henderson, C S½ NE NW Section 7-11-17w, Burnett area, had Arbuckle lime at 3,486-92 ft., total depth 3,493 ft., was acidized and completed for potential of 2,591 bbl. of oil.

Earl Wakefield's No. 3-A Burnett, C E½ SE SE Section 1-11-18w, was completed for maximum potential of 3,000 bbl. of oil in Arbuckle lime at 3,456-60 ft., total depth.

Gulf Oil Corp.'s No. 8 Mai, C S½ NW SE Section 14-11-17w, Bemis field, found Arbuckle lime at 3,359-66 ft., total depth, swabbed 35 bbl. of oil in 1 hour and made potential of 2,348 bbl. of oil.

Republic Natural Gas Co.'s No. 4-B Bemis, C S½ NE NW Section 4-12-17w, Shutts sector, had Arbuckle lime at 3,592-3,601 ft., total depth, was acidized, pumped 98 bbl. of oil in 8 hours and made potential of 296 bbl.

Indian Territory Illuminating Oil Co.'s No. 2 Staab, C N½ NW NW Section 11-12-18w, Walter area, swabbed 46 bbl. of oil in 1½ hours and made potential of 2,682 bbl. of oil, with 318 bbl. of water, from Arbuckle lime at 3,646-59 ft., total depth.

Other recent Ellis County completions: Dickey Oil Co.'s No. 1 Carmichael B, C S½ NW NE Section 18-11-17w, total depth 3,367 ft., potential 3,000 bbl. of oil; Republic Natural Gas Co.'s No. 3 Bemis A, SW NW SW Section 21-11-17w, total depth 3,516 ft., potential 2,166 bbl.; J. J. Hall's No. 3 Oswald B, C E½ SW SE Section 11-12-16w, total depth 3,109 ft., potential 2,131 bbl.

New work in Ellis County: Darby Petroleum Corp.'s No. 8 Jorgenson, C S½ SE SW Section 7-11-17w, building rig; Dickey Oil Co.'s No. 4 Stein, C S½ SW SE Section 7-11-17w, building rotary rig; same company's No. 3 Kollman, C N½ NW SE Section 18-11-17w, cellar; Cities Service Oil Co.'s No. 10 Callahan, NW SE SW Section 24-11-17w, drilling below 1,000 ft.; same company's No. 14-B Hall, SE NW SW Section 26-11-17w, location; Gulf Oil Corp.'s No. 1 Oliver, C N½ NE NE Section 10-12-18w, rigging rotary.

Russell County

Skelly Oil Co.'s No. 12 Neidens, C S½ S½ NE Section 32-15-13w, Trapp field, Russell County, had Arbuckle lime at 3,333-41 ft., total depth, pumped 275 bbl. of oil in 14 hours, was acidized and made daily potential of 2,757 bbl. of oil.

Aylward Production Co.'s No. 1 Rusch, SW SE SE Section 30-14-14w, Big Creek area, pumped and flowed 986 bbl. of oil in 8 hours, making daily potential of 2,960 bbl. Lansing lime was found at 2,936-42 ft., total depth 2,983 ft.

Hartman & Blair's No. 2 Boxberger, C E½ E½ NE Section 26-14-14w, made potential of 1,977 bbl. of oil at total depth of 3,016 ft. Phillips Petroleum Co.

(Continued on Page 82)

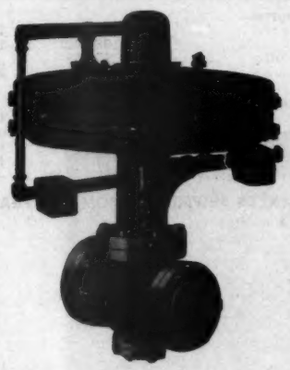
Forest City Basin

ST. JOSEPH, Mo., Mar. 4.—With winter relinquishing its grip on the northern states, activity in the Forest City basin is increasing and it is expected that more than a score of active wells will be under way in the four-states area within the next few weeks. H. A. Buehler, Missouri state geologist, and H. S. McQueen, assistant, predict that at least 30 new tests will be started in the basin this spring and summer.

New tests in Missouri recently announced include the following: American Oil & Gas Co.'s No. 1 Thompson, C SW SW Section 30-58-31w, De Kalb County, cellar and pits; Chillicothe Syndicate's No. 1 Linton, C W½ SE Section 15-56-23w, Livington County, moving in machine; Ray Dorris Drilling Co.'s No. 1 Jones, SE NE NW NW Section 16-58-17w, Macon County, machine on ground. The No. 1 Jones, first test for Macon County, is scheduled to drill to the granite unless production in commercial quantities is found above the rock. Location of the Macon County well is on a block assembled in 1938 by C. E. Richardson, of Oklahoma City, later turning 4,000 acres to W. L. Vaughn and associates for development.

E. H. Lawhon's No. 1 Gottschall, C SE SE Section 18-59-32w, De Kalb County, has spudded. Brin & Nathan's No. 1 Decker, C NW NW Section 1-61-38w, Holt County, drilled to 1,056 ft. after completing fishing job and was shut down for 10-in. casing.

(Continued on Page 76)



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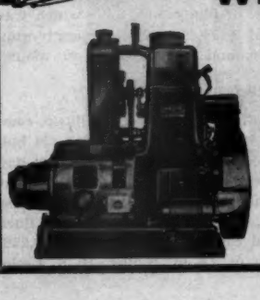

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California Field Report

By

L. P. STOCKMAN

Dominguez' Western Limits Defined by Pongratz Well

LOS ANGELES, Calif., Mar. 4.—Pongratz Petroleum Co. defined the western limits of production in the Dominguez field late in the week when No. 1 Grant, at 7,688 ft., cored gray sand in the eighth Callender zone. This outpost, east of Main Street and west of the Gardena Syndicate parcel, which adjoins the Callender lease of Union Oil Co. on the west, cored 40 ft. below the Callender shale into the eighth Callender zone and found a gray sand that looked like a water sand instead of the oil sand that had been anticipated. No. 1 Grant cored 38 ft. of oil sand in the seventh Callender zone, but this was immediately on top of the gray water sand, and its production possibilities are doubtful. Drilling operations were suspended and discontinued temporarily. It is quite probable that operators holding adjacent acreage may contribute dry-hole money in order to carry the hole down for a conclusive search. The eighth Callender zone is the deepest known productive horizon in the Dominguez field and if dry-hole money is forthcoming it will have to be sufficient to drill the hole down to at least 9,000 ft.

There is no reason why deeper production should not be developed in the Dominguez field despite the deep hole drilled by Union Oil Co. more than a year ago, as the bit was still in the Miocene when work stopped. This will mean real deep drilling out around the edge of the structure. This unsuccessful attempt to extend the field westward to Main Street has cooled this hot spot, but there is still a remote chance that a limited amount of acreage south of No. 1 Grant may be found productive. It is questionable, however, if any operator could justify the drilling of another outpost in the subdivided area east of Main Street under present conditions.

R. E. Havenstrite, who extended the field to the west last year, moved south for his second well which is now below 6,500 ft., but will probably move west one location when he starts a third well.

Pool Production

Current daily production of leading California fields follows:

	Bbl.
Wilmington	81,775
Kettleman Hills	50,165
Midway-Sunset	44,925
Long Beach	43,870
Ventura Avenue	38,450
Huntington Beach	27,265
Santa Fe Springs	25,240
Montebello	22,520
Santa Maria Valley	11,850

Northeast Coalinga

Bandini Petroleum Co., a subsidiary of Wilshire Oil Co., extended the southern limits of the Northeast Coalinga field when No. 51-30-B, located along the north line of Section 30-19-16, was brought in flowing 3,750 bbl. of 31.1-gravity oil and 5,900,000 cu. ft. of gas per day from the equivalent of the Gatchell zone with bottom of the hole at 8,294 ft. This well was finished with a 7-in. water string cemented at 8,105 ft. and 143 ft. of 5-in. liner, including 70 ft. of 100-mesh perforated, landed at 8,294 ft. and cemented through perforations at 8,218 ft. Above this the company landed 88 ft. of 5-in. liner including 10 ft. of perforated at 8,151 ft., which is opposite the gas-cap area. When completed the well was producing crude oil and gas from the lower Gatchell sand through the tubing, and gas from the gas-cap section through the annular space between the tubing and casing, but the gas sand was subsequently shut in and production from the oil sand beaned back. Bandini Petroleum Co. has leases on 87 acres adjacent to the new well and about half of it is expected to be productive. No. 51-30-B was brought in flowing through a ⅝-in. bottom-hole bean from 70 ft. of oil sand in the bottom of the hole and 10 ft. from the gas-cap section.

Union Oil Co. completed its fourth producing well in the field when No. 88-18 Cook in Section 18-19-16 was brought in flowing 1,616 bbl. of 27.5-gravity oil and 3,676,000 cu. ft. of gas per day through a 25/64 to 40/64-in. bean from a depth of 8,222 ft. This new well, which showed a tubing pressure of 1,225 lb. and a casing pressure of 1,350 lb., logged top of the Kreyenhagen at 6,870 ft., top of the glauconite at 7,859 ft. and top and base of the productive Gatchell sand at 7,963 ft. and 8,222 ft. respectively. No. 88-18 Cook has an elevation of 559 ft. above sea level and was finished with a 7-in. water string cemented at 7,934 ft. and 363 ft. of 5-in. liner landed at 8,216 ft. and cemented through perforations at 8,166 ft. Perforations, which were 120-mesh opposite the oil sand, were at 8,175-8,216 ft. Production was flowing through 8,177 ft. of 2-in. tubing.

In Section 19-19-16 Standard Oil Co. completed No. 51-19-B fee flowing 1,272 bbl. of clean 30.6-gravity oil and 7,926,000 cu. ft. of gas per day from the Gatchell sand with bottom of the hole at 8,209 ft., and flowing through a bean varying from 12/64 in. to 40/64 in. Tubing pressure varied from 1,250 lb. on the 40/64-in. bean to 2,650 lb. on the smaller bean and casing pressure was 2,950 lb., which remained rather steady. No. 51-19-B logged top of the Kreyenhagen at 6,577 ft., found top of the glauconite at 7,646 ft. and cored top of the productive Gatchell sand at 8,090 ft. The hole was finished with a 7-in. water string cemented at 8,030 ft. and 239 ft. of blank 5-in. liner which was landed and cemented at 8,194 ft. and subsequently gun-perforated at 8,180-94 ft. and 8,163 ft. of 2½-in. tubing.

Southeast Coalinga

In the Southeast Coalinga field Superior Oil Co. completed No. 4 Cagle in Section 6-20-16 flowing 1,434 bbl. of 32.2-gravity oil and 907,000 cu. ft. of gas per day from the Gatchell sand, with bottom of the hole at 7,877 ft. It was finished with an 8⅝-in. water string cemented at 7,251 ft. and 640 ft. of drillable liner landed at 7,877 ft. and carrying perforations at 7,258-7,877 ft. and 7,816 ft. of 2½-in. tubing. R. S. Lytle, who is operating for former stockholders of Petroleum Securities Co., Honolulu Oil Corp., and Seaboard Oil Corp. has reduced drilling operations to three strings of tools in the Southeast Coalinga field, but Standard Oil Co. has staked locations for several additional wells in both the northeast and southeast field. Standard is at present running three strings of tools in each of the fields and has five additional locations staked. Universal Consolidated Oil Co. has logged top of the Kreyenhagen on a drilling break at 6,419 ft. and should top the glauconite within the next 300 ft., as the bit in this well is rotating at 7,150 ft.

Rio Bravo

Superior Oil Co. completed two outposts to the Rio Bravo field when No. 1 Poe in Section 27-28-25 was brought in flowing 1,640 bbl. of clean 39.2-gravity oil and 2,050,000 cu. ft. of gas per day, and No. 1 Rudnick in Section 28-28-25 was finished flowing 1,575 bbl. of 39.1-gravity oil and 2,035,000 cu. ft. of gas daily. No. 1 Roe, which was completed flowing through a 26/64-in. bean and showed a tubing pressure of 1,700 lb. and a casing pressure of 1,950 lb., was finished at 11,385 ft. with a 7⅝-in. water string cemented at 11,153 ft. and 275 ft. of 5¾-in. liner landed on bottom and perforated at 11,148-11,385 ft. and 10,516 ft. of 2½-in. tubing. This well has an elevation of 327 ft. and top of the productive Rio Bravo zone was cored at 11,159 ft.

Superior's No. 1 Rudnick, the most westerly producing well in the northwestern end of the field, was finished at 11,420 ft. and has a 7⅝-in. water string cemented at 11,186 ft. Opposite the productive formation the company ran in 270 ft. of 5¾-in. liner including 235 ft. of perforated. Union Oil Co. completed No. 21-34 Kern County Land, its jinx well in Section 34-28-25, flowing 1,192 bbl. of clean 37.7-gravity oil and 2,030,000 cu. ft. of gas per day through a 24/64-in. bean behind a tubing pressure of 1,500 lb. and a casing pressure of 1,800 lb. This well, which got away from the crew several weeks ago while 7-in. casing was being run in, and blew out flowing about 30,000,000 cu. ft. of gas per day, was finished at 11,470 ft. Completion was delayed for several weeks by the blowout as the casing stuck above the bottom of the

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	February 25		February 18			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	.....	60,642
Fuel oil	.....	.....	.....	.....	152,798	324,501
Diesel and gas oil	.....	.....	.....	.....	.....	163,501
Gasoline	.....	.....	98,015	14,002	125,865	195,754
Kerosene	.....	.....	.....	.....	.....	56,940
Foreign exports—						
Crude oil	133,926	19,132	183,389	26,198	2,248,185	2,277,854
Fuel oil	106,742	15,249	118,249	16,893	1,144,497	1,082,980
Diesel and gas oil	25,538	3,648	154,514	22,073	1,151,799	608,017
Gasoline	168,776	24,111	17,220	2,460	757,576	1,477,320
Kerosene	24,327	3,475	.....	.....	160,074	217,243
Coastwise-domestic—						
Crude oil	349,216	49,888	150,606	21,515	1,740,692	1,331,331
Fuel oil	460,701	65,814	195,148	27,878	2,228,203	1,452,241
Diesel and gas oil	98,205	14,029	35,332	5,047	449,795	441,825
Gasoline	319,350	45,621	293,060	41,866	2,211,624	1,832,120
Kerosene	.....	.....	5,140	734	73,845	37,292

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	68,740	.....
Diesel and gas oil	.....	.....	.....	.....	210,713	69,550
Lubricants	.....	.....	.....	.....	3,610	4,170
Foreign exports—						
Crude oil	.....	.....	.....	.....	255,294	790,729
Fuel oil	.....	.....	34,205	4,886	175,155	260,815
Diesel and gas oil	20,291	2,899	144,635	20,662	280,035	119,418
Gasoline	.....	.....	79,117	11,302	384,742	594,640
Kerosene	.....	.....	31,996	4,571	68,553	139,024
Lubricants	77,628	11,090	1,241	177	79,651	54,326
Other finished oil	117	17	.....	.....	117	.....
Coastwise-domestic—						
Fuel oil	108,932	15,562	135,126	19,304	1,042,643	692,265
Diesel and gas oil	.....	.....	25,073	3,582	194,492	41,552
Gasoline	82,101	11,729	115,191	16,456	1,154,440	397,083
Kerosene	.....	.....	3,366	481	106,726	68,306

hole and had to be washed over and circulated loose. No. 21-34 was finished with a 7-in. water string cemented at 11,192 ft. and 295 ft. of 5-in. liner landed at 11,465 ft. and including 120-mesh perforations at 11,216-11,465 ft. and 11,415 ft. of 2½-in. tubing.

Greeley

Two excellent flowing wells were completed on the north flank of the Greeley field of Kern County when Superior Oil Co. completed No. 1 Scofield in Section 12-29-25 doing 1,550 bbl. of clean 36.4-gravity oil and 1,700,000 cu. ft. of gas per day from the Rio Bravo zone with bottom of the hole at 11,309 ft. and General Petroleum Corp. finished No. 1 Farrand in Section 12-29-25 flowing 1,399 bbl. of clean 36.3-gravity oil and 1,800,000 cu. ft. of gas daily from the Rio Bravo zone with bottom of the hole at 11,567 ft. but plugged back with 12 sacks of cement. No. 1 Scofield, which cored top of the Rio Bravo zone at 11,309 ft., was finished with a 7⅝-in. water string cemented at that point and 208 ft. of 5¾-in. liner including 188 ft. of perforated landed on bottom, 11,500 ft. and 10,516 ft. of 2½-in. tubing. No. 1 Farrand of General Petroleum Corp. cored top of the Rio Bravo zone a little lower, 11,347 ft., and landed the 6⅝-in. water string at 11,336 ft. Standard Oil Co., discoverer of the Greeley field, is running three strings of tools and General Petroleum Corp. has one well under way and derrick up for another, No. 2 Sullivan in Section 12-29-25. General Petroleum Corp. extended the productive limits of the Rio Bravo zone in the Greeley field several months ago by finishing No. 1 Sullivan.

Canal and Ten Section

The limits of the Canal field have been fairly well determined as Shell's last well in this field in Section 13-30-25 proved unsatisfactory at 8,980 ft. and was laetr plugged back to 8,640 ft. This well is No. 21-13-A Kern County Land. In the Ten Section field Shell Oil Co. completed No. 8-21-B Kern County Land in Section 21-30-26 flowing 1,687 bbl. of clean 34.7-gravity oil and 1,091,000 cu. ft. of gas daily through two 1-in. beans from a depth of 8,220 ft. This new well, which was completed in the Stevens sand, was finished with a 7-in. water string cemented at 8,059 ft. and 169 ft. of 5½-in. liner landed at 8,216 ft. and including perforations at 8,069-8,180 ft. and 8,200-16 ft. and 8,075 ft. of 2½-in. tubing. Tubing pressure gaged 150 lb. and casing pressure reached 800 lb. No. 8-21-B Kern County Land has an elevation of 337 ft. and is located along the northeastern end of the productive area in the field.

Wilmington

Four wells were completed in the Wilmington field of Los Angeles Basin but were relatively small due to restrictive measures during completion. Union Pacific Railroad Co. completed No. 7-C in the Ford zone at 5,554 ft. flowing 145 bbl. of 28.8-gravity oil per day. It was finished with a 10¾-in. water string cemented at 2,918 ft. and 2,387 ft. of blank 7-in. liner cemented at 5,094 ft. and again through perforations at 3,541 ft. Opposite the oil sand the company used 487 ft. of 4¾-in. liner which was cemented through perforations at 5,333 ft. and 5,494 ft. and which carried perforations at 5,094-5,255 ft., 5,340-97 ft., and 5,501-49 ft. and 5,079 ft. of 2½-in. tubing. Union Pacific Railroad Co. is one of the operators which agreed to refrain from deep-zone exploitation of the Ford zone, but the completion of No. 7-C is not included in the restrictions. This well is in the extreme west block and is not in the Long Beach Harbor section of the field.

General Petroleum Corp. completed No. 102 Pacific Electric flowing 118 bbl. of 14.5-gravity oil and 28,000 cu. ft. of gas per day from the Ranger or upper zone with bottom of the hole at 3,410 ft. This well flowed through a 33/64-in. bean behind a tubing pressure of 150 lb. and a casing pressure of 600 lb. and was finished with a 9-in. water string cemented at 3,070 ft. and 372 ft. of 5¾-in. liner landed at 3,409 ft. and gravel packed with 50-mesh perforations at 3,069-3,409 ft. and 3,210 ft. of 2½-in. tubing. It was drilled from spud to completion in exactly 15 days, including time allowed for cementing.

No. 1 Harbor of Ace Petroleum Co. has been completed flowing 109 bbl. of 14.4-gravity oil and 20,000 cu. ft. of gas per day from the Ranger zone at 3,560 ft. It flowed through a 12/64-in. bean and showed a tubing pressure of 150 lb. and a casing pressure of 200 lb., was finished with an 8⅝-in. water string cemented at 3,300 ft. and 303 ft. of 5¾-in. liner landed on bottom and perforated at 3,346-3,560 ft. and 3,450 ft. of 2½-in. tubing with packer at 3,280 ft. The well is near Anaheim Boulevard and Seabright Street. Near Pico and Water streets, in the town-lot section in the western end of the field, Hansen Oil Corp. completed No. 1 Harbor several days ago pumping 82 bbl. of relatively clean 17.1-gravity oil per day from the Ranger zone at 3,045 ft. This new well was finished with an 8⅝-in. water string cemented at 2,727 ft. and 360 ft. of 5½-in. liner landed on bottom and gravel packed at the perforations which were at 2,722-3,045 ft. The 3,015 ft. of 2½-in. tubing had a packer at 2,680 ft.

Los Angeles Basin

Only one new well was completed in the west end of the Montebello field of Los Angeles Basin and from now on new wells will be finished with less regularity due to decreased drilling. No. 4-20 Montebello of the Caminol Co., Ltd., was brought in flowing 465 bbl. of 35.1-gravity oil and 2,500,000 cu. ft. of gas per day from La Merced zone with bottom of the hole at 7,630 ft. It flowed through a 1-in. bean with tubing pressure 200 lb. and casing pressure 500 lb. It topped the 8-1 oil sand at 7,510 ft. and was finished with a 7-in. water string cemented at 7,512 ft. and 128 ft. of 5-in. liner landed on bottom and perforated at 7,512-7,630 ft. and 7,580 ft. of 2½-in. tubing. In the Long Beach field, Sunset Oil Co.'s No. 1 Kirkpatrick was pumping 40 bbl. of 22.1-gravity oil cutting 20 per cent daily from 3,160 ft. after the hole was finished with a 7-in. water string cemented at 3,110 ft. and 70 ft. of 5½-in. liner landed on bottom and perforated at 3,120-60 ft. and 1,804 ft. of 2½-in. tubing.

Because of their failure to comply with orders contained in an injunction, Superior Judge Emmet Wilson has ordered two operators in the Montebello extension to shut in their wells and make other adjustments in order to offset the amount of gas overproduced in violation of the court's orders. Wood-Callahan Oil Co. was ordered to shut down its wells for 29 days, and when opened at the end of the period to reduce gas production to 50 per cent of the allowable for another 62 days. It is estimated that upon comple-

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tion of the probationary period the company will have underproduced an amount allegedly overproduced in violation of the court's orders. The severity of this order is very important because engineers expect that much of the gas cap will have been dissipated before the end of July and this sentence runs up through the month of May. For the same reason but of less severity, the Bakersfield-Montebello Oil Co. was ordered by the court to shut in its wells for 22 days because of previous overproduction in violation of orders. The Wood-Callahan Oil Co. was found guilty on 60 counts of contempt of court and the Bakersfield-Montebello Oil Co. was found guilty on 49 counts.

San Joaquin Basin

In the Mount Poso field of Kern County, Vanguard Oil Co. completed No. 10 Baker in Section 33-27-28 pumping 125 bbl. of 16.1-gravity oil cutting 6 per cent daily from the Vedder sand which was topped at 1,700 ft. This new well, which was bottomed at 1,799 ft. was finished with a 6⅝-in. water string cemented at 1,799 ft. and subsequently gun-perforated opposite the oil sand at 1,754-67 ft. and 1,510 ft. of 2½-in. tubing.

In the Paloma field of Kern County Western Gulf Oil Co., which discovered this field late in 1939, is drilling in the pay at 10,700 ft. in No. 74-3-A Kern County Land in Section 3-32-26 and Ohio Oil Co. is coring in Stevens oil sand at 10,150 ft. in No. 2-B Kern County Land in the same section. Ohio Oil Co. cored gas sand at 10,001-47 ft. and topped the Stevens oil sand at 10,085 ft. In the Cole's Levee field of Kern County Richfield Oil Corp. has killed No. 20-2 Kern County Land, a recent completion, and will undertake some remedial work.

Coastal District

Shell Oil Co. completed an exceptionally large flowing well in the Ventura Avenue field when No. 112 Taylor was brought in flowing 4,386 bbl. of 30.4-gravity oil per day from 7,520 ft. This well, in the south central part of the Taylor lease, is the largest flowing well completed in the Ventura Avenue field in a long time. No. 112 Taylor was finished with a 7⅝-in. water string cemented at 5,967 ft. and it shows a tubing pressure of 300 lb. and a casing pressure of 1,400 lb. British American Oil Co. recompleted No. 9 Hartman in the Ventura Avenue field after cleaning out the hole and has returned the well to production flowing 950 bbl. of 28.9-gravity oil cutting 5 per cent and 600,000 cu. ft. of gas daily from 8,764 ft. Continental Oil Co. has spudded in No. 15 Grubb in the San Miguelito field of Ventura County and has started building derrick for No. 16 Grubb.

Kentucky Fields

(Continued from Page 57)

1 George Edwards, shut down at 1,130 ft. with the hole full of water. Saunders School district: W. J. Flesher's No. 2 R. B. Quissenberry, shot Barlow sand at 452-85 ft. with 40 qt., total depth 485 ft.; estimated 10-bbl. well.

McLean County, Island district: South Penn Oil Co.'s No. 10 Alma Nall, rig on location to deepen old well; total depth 2,130 ft.

Ohio County, Sunnydale district: Tuttle and others' No. 8 Lena Berry, dry hole through Penn sand, total depth 205 ft. Tuttle & Russell's No. 3 C. E. Wimsatt, shut down at 120 ft. M. Parrott's No. 2 Lee Lewis, to clean out and drill deeper, total depth 473 ft. Fordsville district: Hunt & Miles' No. 1 Grace Miles, estimated 5-bbl. well in Jett sand, total depth 255 ft. Henry Scholl's No. 4 Roy Muffett, dry hole through Barlow sand, total depth 550 ft. Narrows district: Thrasher & White's No. 1 Clarence Robinson, dry hole, total depth 835 ft.

Union County, Hitesville district: Glen Jordan and others' No. 1 J. C. Buckman, location.

EASTERN KENTUCKY

ASHLAND, Ky., Mar. 4.—Two gas-well completions are included in the report of activities in the eastern Kentucky fields in the past week.

In Marion County Kentucky-West Virginia Gas Co. is rigging up No. 583 on the Wilson Short land on Rockcastle.

Kentucky-West Virginia Gas Co. completed No. 5259 on the John W. Taylor land on Toler Creek in Floyd County at a total depth of 3,567 ft., in shale. The well has a daily production of 298,000 cu. ft. of gas. The same company completed No. 5261 on the J. P. Stur-

gill tract, also on Toler Creek, at a total depth of 3,038 ft., in shale. The well is producing 273,000 cu. ft. of gas daily.

In Floyd County Kentucky-West Virginia Gas Co. made a location for No. 5262 on the W. R. Hall, Jr., land on Jacks Creek of Left Beaver, and also for No. 5263 on the J. P. Sturgill land on Toler Creek. The same concern is moving to No. 585 on the A. C. Webb land on Sanson Fork of Prater Creek, and is building road to No. 586 on the Levi Mitchell land on Mitchell Branch of Mud Creek.

In Knott County Inland Gas Corp. is drilling below 920 ft., in slate and shells, in No. 212 W. H. Smith land on the Right Fork of Troublesome Creek. Kentucky-West Virginia Gas Co. is down 1,480 ft. in No. 582 B. F. King land on Joe King Branch, with drilling continuing in slate. The same company made location for No. 584 on the Jeffie Hall land on Isaac Fork of Right Beaver.

In Magoffin County C. J. Sipple & Co. are down 900 ft. in No. 8 on the William Salyer land on Birch Branch in the Burning Fork district.

OHIO

MARIETTA, Ohio, Mar. 4.—Five small gas wells, one oil well, and three dry holes were completed in the Ohio fields covered in this report.

An Athens County test has been drilled 212 ft. into the Corniferous lime, a light showing of oil was had at 40 ft. in, and a small show of gas at 120 ft. in, no Oriskany sand was found. The test was drilled by E. Gibson and others in Carthage Township, in the NW SW Section 18, on the W. L. Potter tract. Top of the Corniferous was at 3,611 ft. It was shut down at 3,823 ft. In Canaan Township H. H. Choguill and others' No. 1 Robert Seaman, Fraction 2, is a small gas well in the second Berea at 1,436-44 ft.

In Mayfield Village, Cuyahoga County, Benedum-Trees, Inc.'s No. 1 Lander allotment, Tract 2, Lot 20, is good for 270,000 cu. ft. of gas, open flow from Newburg sand at 2,878-2,906 ft., which was acidized.

In Newark field, Licking County, Newton Township, Davidson and others' No. 1 Katie McKinney, Lot 8, fourth quarter, was dry through the Clinton to 2,449 ft.

In Knox County, Pike Township, Upham Gas Co.'s No. 1 Citizens Building & Loan Association, Section 23, is a gas well in the Clinton, open flow 260,000 cu. ft., sand at 2,512-18 ft.

In Muskingum County, Brush Creek Township, Rutlege & Mossholder's No. 1 Clarence Harrop, Section 5, found the Clinton and Medina sands dry, total depth 3,980 ft.

In the Yoker Valley field, Noble County, two small gas wells were completed in the Berea grit. In Beaver Township Ohio Fuel Gas Co.'s No. 2 William H. Ankrom, Section 27, had an open flow of 125,000 cu. ft. at 1,611 ft. In Wayne Township, Yoker Valley Oil & Gas Co.'s No. 2 E. B. Ward, Section 34, made an open flow of 90,000 cu. ft. at 1,404-09 ft.

In Perry County, Clayton Township, Roy G. Gordon's No. 1 Z. T. Lyons, Section 16, made 35 bbl. of oil the first 24 hours after shot; Clinton sand at 3,366-95 ft.

In Washington County, Barlow Township, Devitt and others' No. 26 Francis Fisher, Section 6, was dry through second Cow Run, total depth 765 ft.

California Oil-Field Operations for January 1940

According to figures collected by the American Petroleum Institute, the total production of crude oil in California for January amounted to 18,960,399 bbl., an average of 611,626 bbl. per day. This is a decrease of 1,168 bbl. per day under December production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 370,706 bbl. The total stocks at the end of the month were 151,564,542 bbl.

Eighty-two wells were completed during the month with an initial daily production of 64,662 bbl., compared with 99 wells completed during December, with an initial production of 93,489 bbl.

CRUDE PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gal.)

	Total production	Daily average		
Group No. 1:	January	Jan. 1940	Dec. 1939	Jan. 1939
Arvin	79,392	2,561	2,389	
Belridge—North	349,880	11,287	11,785	12,546
Belridge—South	56,763	1,831	1,124	1,114
Canal	181,030	5,840	5,922	3,931
Canfield Ranch	1,845	60	68	32
Coalinga	676,003	21,807	21,214	9,656
Cole's Levee	73,409	2,368	1,854	171
Edison	68,354	2,205	2,216	2,509
Elk Hills	326,874	10,544	12,166	10,087
Fruitvale	187,534	6,050	6,140	7,087
Greeley	100,591	3,245	2,878	2,080
Kern River	361,140	11,650	11,527	11,246
Kettleman Middle Dome				37
Kettleman North Dome	1,495,418	48,239	52,287	58,383
Lost Hills	129,189	4,167	3,361	3,238
McKittrick	108,437	3,498	3,551	3,702
Midway-Sunset	1,621,485	52,306	50,769	55,665
Mountain View	231,441	7,466	7,277	8,795
Mount Poso	302,047	9,743	10,755	13,524
Paloma	5,605	181	174	
Rio Bravo	239,983	7,741	7,974	7,886
Round Mountain	239,921	7,739	8,035	12,109
Strand	40,651	1,311	1,159	
Ten Section	262,890	8,480	8,328	8,743
Tupman	30,147	972	1,029	304
Wasco	34,567	1,115	1,115	702
Wheeler Ridge	9,770	315	329	381
Group No. 2:				
Capitan	62,664	2,021	2,082	2,740
Elwood	121,472	3,918	4,039	4,642
Rincon	127,801	4,123	4,019	3,846
San Miguelito	90,735	2,927	2,930	2,482
Santa Barbara	8,151	263	268	342
Santa Maria	105,797	3,413	3,603	5,436
Santa Maria Valley	333,668	10,763	11,195	11,177
Summerland	887	29	27	20
Ventura Avenue	1,148,054	37,034	36,418	33,678
Ventura-Newhall	220,101	7,100	6,789	5,516
Watsonville	775	25	30	30
Group No. 3:				
Brea-Olinda	174,036	5,614	5,540	5,600
Coyote—East	94,265	3,041	2,900	2,584
Coyote—West	217,943	7,030	6,232	7,915
Dominguez	608,424	19,627	18,901	21,715
El Segundo	83,664	2,699	2,782	4,003
Huntington Beach	849,833	27,414	27,921	27,475
Inglewood	401,305	12,945	13,067	12,933
Lawndale	1,320	43	46	62
Long Beach	1,427,733	46,056	44,334	49,220
Los Angeles-Salt Lake	16,810	542	520	497
Montebello	830,166	26,779	27,093	14,564
Playa Del Rey	135,689	4,377	4,494	5,347
Potrero	49,204	1,587	1,301	928
Richfield	271,703	8,765	8,639	8,131
Rosecrans	293,783	9,477	10,004	14,990
Santa Fe Springs	803,747	25,927	26,039	29,752
Seal Beach	224,992	7,258	6,965	7,633
Torrance	412,103	13,294	13,165	19,695
Whittier	30,059	970	1,006	988
Wilmington	2,599,149	83,844	85,001	83,875
Total January	18,960,399	611,626	612,794	621,744
Total December	18,996,615	612,794		
Decrease	36,216	1,168		

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Jan. 31, 1940	Dec. 31, 1939	January changes	Jan. 31, 1939
1 Gasoline-bearing crude	35,457,793	35,136,501	+321,292	36,831,079
2 Nongasoline-bearing crude	13,378,972	13,303,091	+75,881	16,355,501
3 Unbleached natural gasoline	1,662,478	1,516,033	+146,445	2,536,877
4 Gasoline (not including distributing and service stations)	16,918,562	16,128,052	+790,510	14,265,941
5 Naphtha distillates	*1,289,515	*1,282,484	+7,031	*1,669,331
6 Gas oil and diesel oil	9,099,950	9,671,299	—571,349	10,689,438
7 Fuel-oil residuum	65,990,389	66,886,434	—896,045	71,245,092
8 All other stocks	†7,766,883	†8,011,354	—244,471	†6,338,218
Total	151,564,542	151,935,248	—370,706	159,931,477
*Estimated amount of unfinished gasoline contained in item No. 5	1,036,948	1,032,536	.....	1,408,777
†Coke included in item No. 8	1,018,659	976,545	.....	124,576

OIL-FIELD DEVELOPMENT

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abd. wells: Drillers	Abd. wells: Producers
Group No. 1—							
Arvin	0	1	0	0	13	0	0
Belridge—North	2	0	2	824	76	0	0
Belridge—South	0	0	0	0	145	0	0
Canal	0	2	0	0	31	0	0
Canfield Ranch	0	0	0	0	1	0	0
Coalinga	4	16	6	10,097	923	1	0
Cole's Levee	1	8	2	992	16	0	0
Edison	1	2	0	0	92	0	0
Elk Hills	0	0	0	0	193	0	0
Fruitvale	0	1	0	0	172	0	1
Greeley	0	5	0	0	21	0	0
Kern River	3	3	4	21	1,605	0	0
Kettleman Middle dome	0	0	0	0	0	0	0
Kettleman North dome	4	15	7	11,712	246	0	0
Lost Hills	0	0	0	0	348	0	0
McKittrick	0	1	0	0	200	0	0
Midway-Sunset	3	4	3	408	2,612	0	5
Mountain View	1	1	0	0	184	1	0
Mount Poso	1	0	0	0	272	0	0
Paloma	0	2	0	0	1	0	0
Rio Bravo	3	4	2	3,579	40	0	0
Round Mountain	1	1	1	240	218	0	0
Strand	0	2	1	1,954	7	0	0
Ten Section	3	2	2	6,314	40	0	0
Tupman	0	3	1	1,865	6	0	0
Wasco	1	2	1	3,300	8	0	0
Wheeler Ridge	0	0	0	0	33	0	0
Group No. 2—							
Capitan	0	0	0	0	43	0	0
Elwood	0	0	0	0	81	0	0
Rincon	1	0	2	277	59	0	0
San Miguelito	1	1	1	1,572	22	0	0
Santa Barbara	0	1	0	0	24	0	1
Santa Maria	0	0	0	0	157	1	0
Santa Maria Valley	0	3	1	1,190	64	0	0
Summerland	0	0	0	0	9	0	0
Ventura Avenue	2	9	3	3,722	302	0	0
Ventura-Newhall	3	4	3	3,547	550	0	0
Watsonville	0	0	0	0	7	0	0
Group No. 3—							
Brea-Olinda	1	0	0	0	356	0	0
Coyote—East	0	0	2	491	83	0	0
Coyote—West	0	0	0	0	65	0	0
Dominguez	1	3	1	62	177	0	0
El Segundo	0	0	0	0	47	0	0
Huntington Beach	3	4	2	681	529	0	0
Inglewood	0	0	0	0	209	0	0
Lawndale	0	0	0	0	5	0	0
Long Beach	0	2	1	100	1,221	0	0
Los Angeles-Salt Lake	0	0	0	0	111	0	0
Montebello	7	18	11	3,886	351	0	0
Playa Del Rey	0	0	0	0	158	0	1
Potrero	0	0	2	872	18	0	0
Richfield	0	1	1	50	304	0	2
Rosecrans	2	5	4	768	140	0	0
Santa Fe Springs	0	0	0	0	568	0	0
Seal Beach	0	1	1	500	119	0	0
Torrance	2	2	0	0	705	0	5
Whittier	0	1	0	0	128	0	0
Wilmington	11	12	13	5,638	779	0	0
Miscellaneous drilling	7	34	0	0	0	3	0
Group No. 4—gas fields—							
Buena Vista Lake	0	0	1	gas	4	0	0
Buttonwillow	0	0	0	0	21	0	0
Chowchilla	0	0	0	0	0	0	0
Delano	2	2	1	gas	10	0	0
Dudley Ridge	0	0	0	0	0	0	0
Fairfield Knolls	0	0	0	0	0	0	0
Goleta	0	0	0	0	0	0	0
Marysville Buttes	0	1	0	0	3	0	0
McDonald Island	0	0	0	0	5	0	0
Rio Vista	0	0	0	0	22	0	0
Semi-Tropic	0	0	0	0	2	0	0
Tracy	0	0	0	0	5	0	0
Total January	71	179	82	64,662	14,976	6	15
Total December	104	187	99	93,489	14,668	23	16
Decrease (*Increase)	33	8	17	28,827	*308	17	1

Michigan Field Report

Best New Well of the Year Completed in Walker Field

By
OTTO C. PRESSPRICH

SAGINAW, Mich., Mar. 4.—A series of unsuccessful completions in various wildcat and semiwildcat areas last week offset new production in Michigan oil fields. While a dozen new wells were completed for an initial daily production totaling slightly less than 3,200 bbl., 10 other drilling operations were dry. Three locations were abandoned.

The 28 completions included in the report, however, were taken to indicate the beginning of the spring pickup in activities, a situation further reflected by the fact that the state Conservation Department issued permits last week for 30 new oil and gas wells over an area even more extensive than that covered by the list of completions. Drilling activity, meantime, began to feel the effects of mud, and operators were starting preparations to guard against high-water possibilities in the lowland areas.

Crown Development Co. made the first Michigan pool discovery in 1940 when its No. 1 Reimold, SW NW NE Section 34-5n-15w, in Ottawa County, produced 192 bbl. in 12 hours. The Crown company appears to have the cream of the acreage near the well but this did not prevent a scramble for leases on the part of other operators. The well is producing from Traverse lime topped at about 1,516 ft., corrected figure not yet available, and it was drilled-in only 5 feet. Production started as soon as the top was uncovered. The well is 2 miles from Holland and the closest production is in the Overisel field in Allegan County, 7 miles distant.

Allegan County's Overisel Township section had the best record for the week as Jacob Bolema, Fletcher-Leman and Gould & Cross each reported a producer in Section 34. In bordering Salem Township Socony-Vacuum finished a good well in Section 10 as Arthur Shaw temporarily abandoned a test in Section 1 which had been drilled to 1,590 ft.

Biggest new producer of the week and one of the best wells completed this year was C. J. Farley's No. 2 O'Brien in Section 29 of Kent County's Walker field, good for 55 bbl. an hour, after it was acid treated. One other Walker completion rated 50 bbl. a day, while a wildcat in Bowne Township of Kent was completed dry. In the Tallmadge field of Ottawa County the Kernodle No. 1 Cook and Wolverine's No. 2 Snip were moderately good wells in Sections 23 and 24 respectively.

The rest of the new production was in Central Michigan areas. In Isabella's Wise pool Gulf Refining Co.'s No. 1 Snear in Section 17 was acid treated to increase production to 192 bbl. a day while Gulf's No. B-1 Reed in Section 16 rated 67 bbl. a day, initially. A 65-bbl. well was completed by Forrest Boswell in Section 19 of Akron Township, Tuscola County, and in West Branch Township of Ogemaw County Weber Oil Co. reported a 15-bbl. well in Section 28.

A number of tests in Van Buren County were efforts to extend the pools which are playing out. They failed to produce and consequently six of the week's 16 dry holes completed were in that section, 1 in Bloomingdale, 2 in Columbia, 2 in Geneva and another in Lawrence Township. Other failures included 2 for Pure Oil Co. in the Redding field of Clare County.

All told, the completions for the week covered 19 townships in 13 counties. In Berrien Township, Berrien County, one test was dry and abandoned at 800 ft. Transwestern Oil Co. recorded a failure in LeRoy Township of Calhoun County and Strange Oil & Gas had no better luck in Bellevue Township of Eaton County. Turner Petroleum Co. abandoned a test as dry in Isabella's Nottawa Township, in Kalamazoo County, a Brady Township hole was dry and Charles W. Teater's Colfax Township wildcat in Section 31 of Oceana County was plugged at 2,090 ft.

Among the new permits, scattered through 22 townships, were seven in five townships of Allegan County, four in three townships of Van Buren, four in three townships in Ottawa, two in Wyoming and one in Walker of Kent County, three in Clare's Redding field, two in Monroe's Dundee. Others are for locations in Wexford, Cass, Montcalm, Huron, Jackson and Isabella counties.

The Michigan completions summary for the week follows:

Allegan County

Overisel Township (4n-14w)—Jacob Bolema's No. 4 John Brower estate, NW SW NE Section 34, had initial after-acid production of 70 bbl. a day, total depth 1,463 ft. In the same section Fletcher-Leman's No. 2 Otto Schaap, SE NW SW, completed at a depth of 1,437 ft., was good for 350 bbl. a day after acid treatment, and Gould & Cross' No. 1 Rigertink and others, NE SE SW, was producing 20 bbl. an hour after receiving acid treatment, total depth 1,445 ft.

Salem Township (4n-13w)—Arthur F. Shaw temporarily abandoned No. 1 J. Weber, SE SW SW Section 1, at a depth of 1,590 ft. as Socony-Vacuum Oil Co., Inc., completed No. 2 D. H. Kluinsteker, SW NW NW Section 10, at 1,633 ft. and was getting 385 bbl. a day after acidizing.

Berrien County

Berrien Township (6s-17w)—Matteson & Eskow's No. 1 Arthur Prillwitz, NW SW NW Section 9, was dry and abandoned at 800 ft.

Calhoun County

LeRoy Township (3s-8w)—Transwestern Oil Co.'s No. 1 G. B. Bole, SE SE NW Section 13, was completed dry at 1,491 ft.

Clare County

Redding Township (19n-6w)—Pure Oil Co. recorded two failures as No. 1 A. E. York, C N½ SW SW Section 26, was abandoned as dry hole at 3,938½ ft. and No. 1 B. B. Johnston heirs, C S½ NW NW Section 28, failed to produce from a depth of 3,895 ft.

Eaton County

Bellevue Township (1n-6w)—Strange Oil & Gas Co.'s No. 1 M. E. Garms, NE NE NW Section 4, dry at 1,958 ft., was abandoned.

Isabella County

Nottawa Township (15n-5w)—Turner Petroleum Co.'s No. 1 J. P. Hauck, C E½ NE NW Section 24, was abandoned at 3,865 ft.

Wise Township (16n-3w)—Gulf Refining Co.'s No. 1 William Snear, NE SE SW Section 17, produced at the rate of 192 bbl. a day after acid treatment from 3,727 ft. Gulf's No. B-1 Reed, SW NW NW Section 16, was completed at 3,720 ft. for initial production of 67 bbl. a day, after being acid treated. Cities Service Oil Co.'s No. 1 E. L. Carpenter, SE NE NW Section 20, was dry and abandoned at 3,784 ft.

Kalamazoo County

Brady Township (4s-10w)—R. H. Grant's No. 1 A. G. Nash, SE NW SE Section 6, was a dry hole at 1,255 ft.

Kent County

Browne Township (5n-9w)—Smith Petroleum Co. completed No. 1 J. L. McDonald, NW NW SW Section 30, as a dry hole at 2,031 ft.

Walker Township (7n-12w)—Fifty barrels a day was the yield, after acid treatment, from Pyramid Oil Co.'s No. 1 Harry Thomasma, C W½ NW NE Section 23, completed at 1,893 ft. Wolverine Natural Gas Corp. abandoned location for No. 3 George Kniff, SW NE SE Section 29, C. J. Farley, trustee's No. 2 A. B. O'Brien and others, NE SE SE Section 29, was completed as the biggest producer of the year in the Walker field. After the test was acid treated initial yield was at the rate of 1,320 bbl. of crude a day.

Oceana County

Colfax Township (16n-15w)—Charles W. Teater's No. 1 A. E. Cartier Sons Co., C S½ SW SW Section 31, was dry and abandoned at 2,090 ft.

Ogemaw County

West Branch Township (22n-2e)—Weber Oil Co.'s No. 3 Frank Eastey, NW NE SW Section 28, was good for 15 bbl. a day after the test was treated with acid. Depth of the well is 2,715 ft.

Ottawa County

Tallmadge Township (7n-13w)—George L. Kernodle's No. 1 Francis Cook, SW NE NE Section 23, produced 110 bbl. a day from a depth of 1,880 ft., after acid treatment. Wolverine Natural Gas Corp.'s No. 2 Peter Snip, SE NE SW Section 24, was good for 80 bbl. a day after acid at 1,908 ft. Location for Columbia Oil & Gas Co.'s No. 1 R. M. Groskopf, SE SW NE Section 24, was abandoned.

Tuscola County

Akron Township (14n-8e)—After acid treatment, production of 65 bbl. a day was obtained from Forrest W. Boswell's No. 1 Georgiana Keyser, SW NW SW Section 19, total depth 3,485 ft.

Van Buren County

Bloomingdale Township (1s-14w)—Brown, Downs & Kuhns' No. 1 W. C. Kahl, SW SE SE Section 6, was dry and abandoned at 1,265 ft.

Columbia Township (1s-15w)—Two tests were abandoned as dry in Section 23, one being Clapsaddle, Harris & Fulton's No. 7 Pepper, SW SE NE, at 1,206 ft., the other Clapsaddle & Harris' No. 1 J. Rogowski, NE SE NW, drilled to 1,222 ft.

Geneva Township (1s-16w)—Two H. A. Marchant tests were failures. No. 1 Pioch and Filbrandt, SW SW SE Section 9, was abandoned at a depth of 1,020 ft. while No. 1 Robert Slee, NE SE NW Section 17, was dry at 1,062 ft.

Lawrence Township (3s-15w)—Fortney Oil Co. and others abandoned No. 1 K. O. Ingels, SW SW SW Section 1, as a dry hole at a depth of 1,103 ft.

Forest City Basin

(Continued from Page 71)

Logs of the following wells drilled in 1939 in Missouri have been released by the Missouri Geological Survey, Rolla, Mo.: C. E. King and others' No. 1 Vandereau, Section 18-55-31w, Clinton County; E. I. Neeley and others' No. 1 Shores, Section 12-60-37w, Andrew County; Davis Brothers and others' No. 1 Gee, Section 28-60-35w, Andrew County; F. C. Miller and others' No. 1 Corrough, Section 24-57-35w, Buchanan County, and J. H. Everitt and others' No. 1 Spring, Section 30-62-38w, Holt County.

One well was being plugged and three or four others were preparing to start operations soon in Richardson County, Nebraska. Pawnee Royalty Co.'s No. 1 Meyers, C NW NW Section 24-1n-15, west of the Falls City discovery well, was bottomed at an unannounced depth in Arbuckle lime and was reported being plugged. Same operators were expected to start deepening the Falls City discovery, No. 1 Boice, C NE NE Section 18-1n-16, now shut down in Hunton lime at 2,279-88 ft. It was expected to test Viola lime, in which zone the No. 1 Meyer was reported to have had oil showings.

Rocky Mountain Area

By
T. R. INGRAM

New Pool North of Artesia; Northern Fields Are Quiet

DENVER, Colo., Mar. 4.—The northern Rocky Mountain area scored only one completion the past week, a 140-bbl. pumper for Coolidge & Coolidge in their No. 2 McCurdy, in the Kevin-Sunburst field in Montana. There were only four new operations, two in Lance Creek, a semiwildcat in the Rock River field by the Ohio Oil Co., and one on the Rattlesnake dome in northwestern New Mexico by the Continental Oil Co. Most of the wildcats in all three states are still shut down on account of weather conditions.

NEW MEXICO

Opening of a new oil-producing area in northern Eddy County, together with an increased number of new locations reported in Eddy and Lea counties, centered the attention during an active week in the Southeast New Mexico district.

The new oil discovery is about a mile north of the Artesia field, and in the extreme northern part of the county. The discovery well, M. T. Anderson's No. 1 Root, SW SW Section 12-17-29, drilled pay from 2,514 ft. to 2,561 ft. and was completed on official gage for 90 bbl. of oil in 21 hours. It was completed flowing through open tubing after having been shot in the pay. New development has already commenced in the area, offsets having been staked on both the north and east sides. Just north of the discovery the same operator located No. 2 Root, NW SW Section 12-17-29. As an east offset C. L. East located No. 1 Root, SE SW of the section. The pay horizon is believed to be the same as that of the large Artesia field immediately to the south.

Bringing the field development to the highest point in several weeks, 17 new locations were made in the district. Of this number, 7 were in Eddy County, with 6 in the Loco Hills field, and 10 were in Lea County, with 1 a wildcat location. The wildcat was staked by Lou Stogner and Ted Weiner, of Fort Worth, Tex., and will be No. 1 State, C SE SE Section 30-12-32. The location is approximately ¾ mile east of the Chaves County line. With a contract depth of 4,500 ft., the test will be drilled with cable tools.

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

In the High Lonesome field Dodson's No. 1 Eles, SE NW Section 17-16-29, abandoned location. Knox & Brewer's No. 1 Hess, NW NW Section 21-16-29, abandoned location.

In the Robinson field Domain Oil Co. and Green Bay Oil Co.'s No. 3-X Johnson, NE SW Section 35-16-31, 3,835-93 ft., 90 bbl. daily through open tubing, naturally.

In the Jackson field N., W. & B.'s No. 11-A Jackson, NE SW Section 13-17-30, 3,469-3,514 ft., 100 bbl. daily through open tubing after acid. In the Loco Hills field Suppes & Suppes' No. 1 Miller, SE cor. SE NE Section 6-18-29, 2,663-95 ft., 72 bbl. daily after shot. Brainard & Guy's No. 2 Guy, SE NW Section 10-18-29, 2,547-67 ft., 300 bbl. in 6 hours through open casing after shot. Aston & Fair's No. 1 State, NW SW NE Section 11-18-29, 2,632-53 ft., 100 bbl. in 4 hours through open casing after shot. Franklin Petroleum Corp.'s No. 5-A Yates, NW SW SW Section 6-18-30, 2,792-2,816 ft., 99 bbl. in 2 hours through open tubing after shot.

In wildcat territory, M. T. Anderson's No. 1 Root, SW SW Section 12-17-29, 2,514-63 ft., 90 bbl. in 21 hours flowing through open tubing after shot.

Lea County

In the Maljamar field B. Cockburn's No. 5-B Baish, SE NW Section 27-17-32, 3,837-4,009 ft., 252 bbl. in 12 hours through open tubing after shot. In the Vacuum field Magnolia Petroleum Co.'s No. 53 State-Bridges, SE NE Section 23-17-34, 4,539-4,605 ft., 63 bbl. in 4 hours through open tubing after shot. Humble Oil & Refining Co.'s No. 12-K State, NE SW Section 32-17-35, 4,625-50 ft., 966 bbl. daily through ¾-in. tubing choke, naturally.

In the Halfway field Argo Oil Co.'s No. 1 State, S½ SE NW Section 16-20-32, 2,625-27 ft., 240 bbl. daily pumping through tubing naturally. Westlea Oil Co.'s No. 1-A State, NE SW Section 16-20-32, 2,624-29 ft., 192 bbl. in 20 hours pumping through tubing naturally (official gage).

In the Eunice field Gulf Oil Corp.'s No. 2 Butler, NW SE Section 19-20-37, 3,720-3,858 ft., 62 bbl. daily. Cities Service Oil Co.'s No. 5-A A. Closson, SW NE Section 18-22-36, 3,760-3,835 ft., 188 bbl. in 7 hours.

In the Penrose field Gulf Oil Corp.'s No. 2-C Christmas, NW SE NW Section 18-22-37, 3,635-3,730 ft., 1,623 bbl. daily. Gulf Oil Corp.'s No. 3-D Mattern, SW SE NW Section 7-22-37, 3,730-50 ft., 120 bbl. of oil and 63 bbl. of water daily after acid. N. G. Penrose's No. 3 Mattern, SW SE SW Section 7-22-37, 3,700-35 ft., 165 bbl. in 5 hours through open tubing naturally.

In the Skelly field Skelly Oil Co.'s No. 3-A B. L. King, SE SW Section 33-22-37, 3,552-3,700 ft., 62 bbl. daily through open tubing naturally. Peters' No. 4-H State, SW NE SE Section 34-22-37, dry and abandoned at 700 ft. Golden Oil Co.'s (Gulf Oil Corp.) No. 1 Flora, NE NW Section 8-23-37, 3,575-3,680 ft., 100 bbl. daily through open tubing after shot. Peters' No. 1 Giler, SW NW Section 33-22-37, 3,550-3,701 ft., 24 bbl. in 3 hours through open tubing after shot.

In the Langlie field Anderson-Prichard Oil Corp.'s No. 5 Stuart, NW SE NW Section 11-25-37, 3,340-3,430 ft., 102 bbl. daily.

Eddy County

G. R. Burke's No. 1 State, SE cor. SE SW Sec. 36-16-24. (O.W.D.D.) Below 2,326 ft.
G. E. Bobb's No. 1 Vandagriff, SW NE Sec. 6-19-31. (O.W.D.D.)
Everts' No. 1 Greer, SE cor. Sec. 31-16-31. T.D. 3,854 ft.; C.O.
Everts & Moran's No. 1 Ranuz, NE NW Sec. 18-23-26. T.D. 375 ft.; S.D.
G. A. Grober's No. 1 Wright, 1,980 ft. from N and W lines, Sec. 25-18-28. Tstg. S.O.&G. 1,382 ft.; est. 10 B.O.P.D.; Drlg. 1,725 ft.
Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. Drlg. 852 ft.
L. E. Elliott's No. 1 Elliott, SE SE SE Sec. 24-18-29. S.S.O. 3,255-75 ft.; C.O. 3,482 ft.; bailed dry and shut in for 12 hrs.; opened and bailed 3 bbl. oil and 5 bbl. water.
J. W. Elliott's No. 1 Cannon (O.W.D.D.), C SW SE Sec. 4-19-30. S.D.O. 3,421 ft.; sulf. wtr.
Trojan Oil Co.'s No. 1 Grant, SW SW NE Sec. 33-20s-25e. S.O. 1,530 ft.; S.D.R. 1,580 ft.
Dodson Drlg. Co.'s No. 1 A. H. McElreath, 330 ft. from S and W lines, Sec. 3-16-29, 2½ mi. NE of Nolen's pool opener. Est. 175,000 cu. ft. gas; S.D.O. 2,750 ft.
Anderson's No. 1 Neeson, 330 ft. from W and 2,310 ft. from N lines, Sec. 4-16-30. S.D.R. 2,200 ft.
Carper Drlg. Co.-Tallmadge's No. 2-A Miles-State, 2,310 ft. N and E lines, Sec. 32-17-30. Drlg. 2,780 ft.
Clark & Cooper's No. 1 Ward, 1,980 ft. S and E lines, Sec. 20-16-27. T.D. 945 ft.; set 7⅝-in.
A. E. Frazier's No. 1 H. E. Yates, 330 ft. from N and 1,650 ft. from E lines, Sec. 6-20-27. S.D. 817 ft.
Frederick's No. 1 Reed, 1,980 ft. from S and W lines, Sec. 28-24-38 (O.W.D.D.). Est. 1,500,000 cu. ft. gas at 2,300 ft.; W.O.C. 2,893 ft.
Jack Harris' No. 1 Josey, 370 ft. from S and 2,310 ft. from W lines, Sec. 20-20-23. R.U. and S.D.
Wilder's No. 1 Young, 1,650 ft. from N and W lines, Sec. 23-16-29. Drlg. 2,360 ft.
Sam Montgomery's No. 1 Kaltenback, 330 ft. from N and W lines, Sec. 24-16-27. Fsg. 1,847 ft.
Sam Weiner's No. 1 Hess, 330 ft. from S and E lines, Sec. 9-16-29. S.D.R. 1,925 ft.
Thomas & Bowers' No. 1 H. W. Etz, 2,310 ft. from N and 330 ft. from W lines, Sec. 13-16-30. S.D.R. 2,395 ft.

Dona Ana County

Picacho O. & G. Co.'s No. 12 Armstrong, Sec. 15-23s-1w. Prep. run csg. 2,620 ft.
Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. T.D. 2,785 ft.; S.D.O.

Chaves County

Comanche Drlg. Co.'s No. 4 Sloop & Purcell, 510 ft. from N line and 330 ft. from E line, Sec. 5-11-26. Drlg. 865 ft. (last report).
Farrar-Jones-Cunningham's No. 1 Samples, 330 ft. from S and E lines, Sec. 1-7-27. S.D.R. 98 ft.
G. H. Cowden's No. 1 Brunson, 330 ft. from N and W lines, Sec. 27-9s-30e. Drlg. 380 ft. (last report).
Grastorff-Caudill & French's No. 1-A Smith (O.W.D.D.), Sec. 1-4-29. S.D.R. 3,686 ft.
Helmes & Martin's No. 1 Stephens, 660 ft. from N and 1,980 ft. from E lines, Sec. 22-15-29. S.D.O. 1,835 ft.
T. S. Stanfield's No. 1 Bogle, 330 ft. N line and 2,310 ft. E line, Sec. 27-13-25. S.D.R. 1,140 ft.

Luna County

O. D. Berry's No. 1 Berry, SE SE SW Sec. 33-22s-10w. S.D.O. 1,000 ft.
O. D. Berry's No. 2 Berry, Sec. 33-22-10. Loc.

Lea County

Culbertson & Irwin's No. 1 Lankford, 660 ft. from N and 1,980 ft. from W lines, Sec. 25-23-36. Gas from 2,955-3,007 ft.; increased to 75,000,000 cu. ft. per day at 3,030 ft.; T.D. 3,618 ft.; P.B. 2,970 ft.; drlg. up iron 2,790 ft.
J. D. Barefield's No. 2 Stroup, 1,980 ft. from N and E lines, Sec. 12-18-32. S.D.R. 1,325 ft.
Stogner & Weiner's No. 1 State, SE SE Sec. 30-12-32. Loc.

Otero County

Ernest's No. 1 Ernest, Sec. 20-25-7. Drlg. 2,735 ft.
Otero Oil Co.'s No. 1 State, SE NW Sec. 5-22-10. C.O. 514 ft.; T.D. 825 ft.

Socorro County

Joiner Oil Corp.'s No. 1 Belen grant, 2,310 ft. N and W lines, Sec. 16-3-1. Loc.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc.'s No. 2 North Albuquerque, NE SE NW Sec. 19-11n-4e. S.D. 4,710 ft.
Norins Realty Co., Inc.'s No. 2 Pajarito, Sec. 22-9n-1e. S.D. 2,000 ft.

McKinley County

Petroleum Products Corp.'s No. 7 Hospah, C SW SW Sec. 36-18n-9w. Spd. to 500 ft. and S.D. acct. of weather.

San Juan County

Continental Oil Co.'s No. 104 Rattlesnake, NE SE SW Sec. 12-29n-19w. Drlg. 220 ft. (first report).
Kutz Deep Test, Inc.'s No. 1 Govt., C NW NW Sec. 28-28n-10w. T.D. 560 ft.; landed 12½-in. on bttm.
Angel Peak Oil Co.'s No. 9 fee, C NE NW Sec. 24-28n-11w. Drlg. 1,700 ft.
Continental Oil Co.'s No. 100 Rattlesnake, SE NW NE Sec. 2-29n-19w. T.D. 7,407 ft.; P.B. to 6,676 ft.; tstg.

San Miguel County

Ben E. Keith's No. 1-X McCune, SW SE SW Sec. 32-16n-12e. Drlg. 1,200 ft.

Socorro County

Joiner Oil Corp.'s No. 1 Belen Grant, SE NW Sec. 16-3n-1e. T.D. 600 ft.; prep. to cmt. 10-in. on bttm.

Valencia County

C. A. Grober et al's No. 1 Fuqua, NE NE Sec. 19-5n-3e. Cg. below 3,850 ft.

COLORADO

El Paso County

F. F. Hintze et al's No. 1 State, CEL SE SE Sec. 16-11s-60w. S.D. 895 ft. (C.D.); to run 8-in.

Huerfano County

I. E. Sideman-White et al's No. 1 Martinez, C SW NE Sec. 33-26n-67w. Spdg. 100 ft. with rotary equip. to go to the granite.

La Plata County

Nick Spatter's No. 1-X Bryce, C SW SW Sec. 31-33n-9w. Drlg. below 2,950 ft.

Larimer County

L. R. Steele et al's No. 1 Mundt, NE NE NE Sec. 7-3n-69w. T.D. 1,760 ft.; rerunning 5⅞-in.

Montezuma County

McElmo Oil Co.'s No. 1 West, NE NW NE Sec. 31-36n-17w. Drlg. 5,285 ft. in blk. L&sh.; S.S.O.; est. 2,000,000 cu. ft. gas at 5,241 ft.

Park County

South Park Oil Co.'s No. 1 Lemar, NE NE SE Sec. 34-11s-75w. S.D. 7,172 ft.

Moffat County

Great Divide Pet. Co.'s No. 1 Wyatt, SE¼ Sec. 4-6n-92w. S.D. 724 ft.; 10-in. froze at 650 ft.; will res. as soon as weather conditions improve.

Routt County

L. C. Craig-E. L. Moore's No. 1-X Erwin, C SW NE Sec. 33-7n-85w. T.D. 2,220 ft.; trying to recmt. 6⅝-in. at 2,055 ft.

Washington County

Thurman Oil Tr.'s No. 1 Ruby, NW NW SW Sec. 3-5s-52w. S.D. 1,360 ft.; to run csg. and R.U.C.T.

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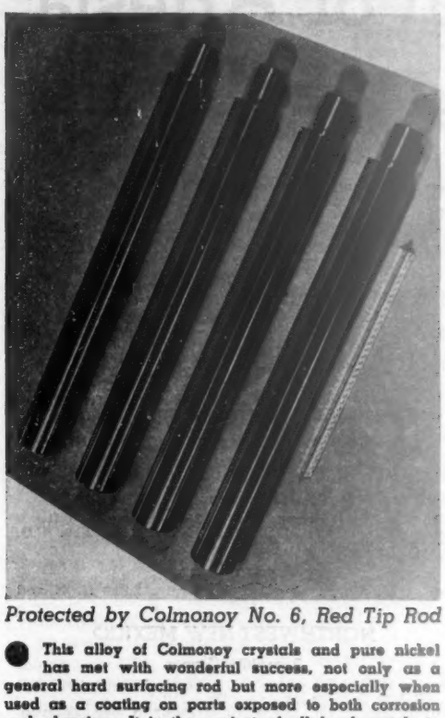

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● **Colmonoy No. 6 flows freely and can be applied either as a very thin layer or built up to any desired thickness. A thin "tin" coating applied to heavy sections keeps troublesome scale from forming when preheating for the main layer of hard facing. Preheating is necessary to eliminate shrinkage cracks on heavy sections. A better method on large jobs is to do the welding over a preheating fire.**

● **This rod is not recommended for use as an electrode. The matrix hardness of Colmonoy No. 6 is Rockwell C-55 to C-60 but this is little indication of its abrasive resistance, since the resistance of this material to grinding is many times greater than that of ordinary metals of similar hardness.**

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WYOMING

Big Horn County

Frank S. Scott's No. 1 Robertson, SE SE SE Sec. 6-54n-93w. S.D. 650 ft.; acct. weather.
Yale Oil Corp.'s No. 1 Simonson, Lot 53, Sec. 34-55n-97w. Drlg. 3,737 ft.

Carbon County

The Ohio Oil Co. has made a location for a semi-wildcat on the northwest flank of the Rock River structure in its No. 12 State, 130 ft. west of center of W½ NE Section 34-20n-78w. It is nearly half a mile northwest of No. 3 State, the nearest producer, which was completed in the Sundance in 1936 for 263 bbl. initially.

Ohio Oil Co.'s No. 12 State, CWL NE¼ Sec. 34-20n-78w. Loc. (first report).
Tri-State O. & R. Co.'s No. 17, NW SE NW Sec. 20-21n-80w. Drlg. 578 ft.; 4¾-in. cmtd. at 576 ft.
Sinclair-Wyoming Oil Co.'s No. 4-E, C SE SW Sec. 29-26n-87w. T.D. 4,326 ft.; P.B. to 4,305 ft. for further tstg.
Albert Dev. Synd.'s No. 1 Boeke, SW NW Sec. 18-25n-79w. S.D.O. 922 ft. in grnt.

Converse County

Shawnee Expl. Co.'s No. 1 Salisbury, SE SW NE Sec. 27-32n-69w. Rdy. to spd.

Fremont County

Lincoln O. & G. Co.'s No. 8 Tribal, C NE SW Sec. 23-1s-1e. T.D. 457 ft.; C.O. at 325 ft.
H. C. Harris et al's No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. 2,691 ft.
F. F. Hintze's No. 1 Govt., CWL NW NW Sec. 7-28n-92w. T.D. 1,135 ft.; fsg.

Hot Springs County

Oscar B. Grace's No. 5 Govt., SE NW Sec. 21-43n-92w. Drlg. 200 ft.
Campbell et al's No. 2 Kyne, NW SE SW Sec. 22-43n-92w. T.D. 60 ft.; rng. 8¾-in. for W.S.O.

Natrona County

General Pet. Corp.'s No. 121-G, NW NW NW Sec. 21-35n-77w. Drlg. 7,206 ft.

Niobrara County

Lance Creek had two new operations and no completions. The two locations by the Continental and Ohio Oil companies are inside wells.

Continental Oil Co.'s No. 7-B Dielman, SE SE NE Sec. 7-35n-65w. Loc.
Ohio Oil Co.'s No. 16 Putnam, SW SW NW Sec. 4-35n-65w. Loc.
Continental Oil Co.'s No. 6-B Dielman, NE SW NW Sec. 8-35n-65w. Rig; W.O. equip.
Minnelusa Oil Corp.'s No. 1 Joss, NE SE NW Sec. 6-35n-65w. Drlg. 4,585 ft.
Minnelusa Oil Corp.-MacKinnie O. & D. Co.'s No. 8 Thompson, SW NE NW Sec. 7-35n-65w. Drlg. 3,765 ft.
Minnelusa Oil Corp.'s No. 1 Ford, SW NW NE Sec. 33-36n-65w. Drlg. 4,975 ft.; T. red beds 4,177 ft.
Continental Oil Co.'s No. 6 Apex-O.P.C.-4, SW NW NW Sec. 35-36n-65w. B.R.
Ohio Oil Co.'s No. 14 Carrie Putnam, NW SW SW Sec. 33-36n-65w. Drlg. 3,309 ft.
Ohio Oil Co.'s No. 15 Carrie Putnam, NW NE SW Sec. 33-36n-65w. Rig; W.O. equip.
Continental Oil Co.'s No. 10-B Schuricht, SE SE SE Sec. 6-35n-65w. R.U.R.
Continental Oil Co.'s No. 6-A Schuricht, SE NE SE Sec. 6-35n-65w. Drlg. 4,682 ft.; T. Converse 4,595 ft.
Continental Oil Co.'s No. 5 Apex O.P.C.-1, NE SW NE Sec. 34-36n-65w. T.D. 4,158 ft.; T. basal Sundance 4,090 ft.
Argo Oil Co.'s No. 8 Ford, SE NE NW Sec. 33-36n-65w. Cg. sat. sd, at 5,414 ft.; cmtd. 7-in. at 4,124 ft.
Argo Oil Co.'s No. 12-A Elliott, SE NW NE Sec. 7-35n-65w. Drlg. 5,238 ft.
Minnelusa Oil Corp.'s No. 4 H. & M., NE NE SE Sec. 7-35n-65w. Drlg. 5,427 ft.; T. red beds 4,380 ft.
Ohio Oil Co.'s No. 6 Rohlff, SE NW NE Sec. 32-36n-65w. Drlg. r.b. 4,905 ft.; W. in Sundance.
H. D. Moore's No. 1 Berggren, SE NW Sec. 23-35n-63w. T.D. 2,526 ft.; rng. 4¾-in. for W.S.O.

Sublette County

Marvel Oil Co.'s No. 1-H Govt., CEL NE SE Sec. 28-27n-113w. S.D. after R.U.
North La Barge Oil Co.'s No. 1 Govt., SW NE SE Sec. 8-27n-113w. Drlg. 1,670 ft.

Sweetwater County

Sinclair-Wyoming Oil Co.'s No. 91-A, SE NE NE Sec. 10-26-90w. Drlg. 1,391 ft.
Vermillion Oil Co.'s No. 2 Govt., SW SW SW Sec. 7-12n-99w. Drlg. 2,516 ft.; dry sd. 2,475-2,500 ft.
Sinclair-Wyoming Oil Co.'s No. 90-A, SW SW NW Sec. 11-26n-90w. T.D. 2,110 ft.; tstg.; swbd. 35 bbl. in 4 hrs.

Weston County

Bruce C. Teeter's No. 1 State, C SW NE Sec. 36-32n-61w. S.D. 2,270 ft. (C.D.); may go to Bell sd.
Butcher Bros.' No. 5, SW NW NE Sec. 16-46n-63w. R.O.G.

MONTANA

Blaine County

F. J. Buscher's No. 1 Evey, C NE SE Sec. 12-32n-17e. Cmtd. 10-in. on bttm. at 60 ft.

Glacier County

Santa Rita O. & G. Co.'s No. 10 Tribal, NW NW NW Sec. 15-35n-6w. Drlg. 165 ft.
A. B. Cobb's No. 5 Van Demark, CSL SE NE Sec. 35-35n-6w. Loc.
A. B. Cobb's No. 5 Walberger, CNL NE SE Sec. 35-35n-6w. B.R.
Glacier Prod. Co.'s No. 2 Maltby, C NE NE Sec. 8-33n-5w. Drlg. 1,565 ft.; Colo. 470 ft.; 10¾-in. cmtd. 490 ft.
Gracier Prod. Co.'s No. 1 Barrington, CSL NE SW Sec. 19-33n-5w. Drlg. 1,570 ft.; Colo. 660 ft.; 10¾-in. cmtd. 685 ft.
Glacier Prod. Co.'s No. 1 Evans, C SW NE Sec. 21-33n-5w. Drlg. 1,620 ft.; Colo. 490 ft.; 10¾-in. 583 ft.
Newell & Chandler's No. 1 Anderson, C NE NW Sec. 1-36n-6w. Drlg. 1,831 ft.; T. Colo. 770 ft.
Santa Rita O. & G. Co.'s No. 4 Stahl, CSL NW SE Sec. 20-33n-5w. Cmtd. 10¾-in. at 620 ft.; T. Colo. 590 ft.
British American Oil Co.'s No. 12 Tribal, C SE NW Sec. 34-35n-6w. Drlg. 2,650 ft.
R. C. Tarrant's No. 5 State, NW NE SE Sec. 36-34-6w. T.D. 2,380 ft.; fsg. tools.
Helmac, Tr.'s No. 3 Govt., Lot 3, Sec. 32-33n-5w. R.O.G.
A. B. Cobb's No. 1 Churl, C SW NW Sec. 30-37n-4w. Drlg. 2,580 ft.
Cobb-Reagan's No. 4 Jackson, SW SW SE Sec. 5-32n-6w. R.U.R.

Toole County

Kevin-Sunburst had one completion in Coolidge & Coolidge's No. 2 McCurdy, NE NW NW Section 11-35n-3w, on the west side of the field in the Rocky Ridge pool. It is a better-than-average well and pumped 140 bbl. per day for 3 days when it was shut in on account of storage being full. It was completed at 1,869 ft. in the contact at 1,860-69 ft. The Sunburst was at 1,613-26 ft.

Coolidge & Coolidge's No. 3 McCurdy, SE NW SW Sec. 2-35n-3w. Drlg. 947 ft. in T. wtr. sd.
Mosby Oil Corp.'s No. 3 Pederson, SE NW SE Sec. 7-35n-2w. T.D. 1,561 ft.; cmtd. 6⅝-in. on bttm.; Sunburst 1,410-53 ft.
Casper T. Olen's No. 9 Engemoen, NW NE NW Sec 14-35n-2w. S.D. 70 ft.
L. J. Yealy's No. 14 Shaw, NW SW NE Sec. 35-36n-2w. R.O.G.
Superior Pet. Co.'s No. 3 Haugen, C NE NE Sec. 11-35n-3w. S.D. 1,300 ft.
Lemac Oil Co.'s No. 1, C NE NE Sec. 27-36n-2w. T.D. 1,906 ft.; contact 1,900-06 ft.; good S.O. in sdy. L.; S.D.

UTAH

Grand County

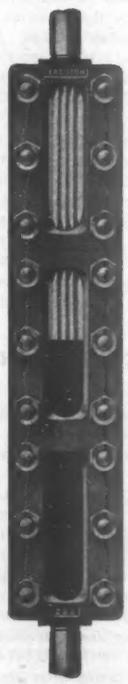
Reeder Corp.'s No. 1 State, NE NE NE Sec. 16-22s-19e. T.D. 700 ft.; U.R. 8¼-in. to bttm. for W.S.O.

SOUTH DAKOTA

Butte County

Two Top O. & G. Co.'s No. 2, SE NE Sec. 30-10n-6e. Drlg. 1,810 ft.; T. Carlisle 1,622 ft.

JERGUSON



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Illinois Fields

(Continued from Page 57)

In Iroquois County Whitlaw's No. 1 Gannon, 1,044 ft. from south and 657 ft. from east lines of SW SE Section 5-27-12w, spudded.

In Tazewell County Barteimay's No. 1 Mathis, 411 ft. from south and 329 ft. from west lines of NW SW Section 24-25n-3w, a St. Peter-sand test, drilling at 240 ft.

In Williamson County Joe Bialock and others' No. 1 W. P. Hill, 200 ft. from south and 330 ft. from west lines of SE¼ Section 4-9s-2e, location.

In White County W. A. Graves and others' No. 1 N. Behmyer, SW SW SE Section 5-6s-8e, location.

In the Irons pool, recently opened by J. W. Carter, with a well producing from Hardinsburg sand in Section 25-6s-8e, Shell Oil Co., Inc. was moving in rotary for No. 1 Austin, 733 ft. from the north and 1,601 ft. from the west lines of NW¼ Section 25-6s-8e. Kingwood Oil Co. made a location for No. 3 Bailey, NE NE NW Section 25-6s-8e, and No. 2 Bailey, 1,845 ft. from the south and 330 ft. from the west lines of NE NW Section 25-6s-8w.

The search for Devonian lime in the Salem field has heretofore been largely confined to Township 2n-2e, but in the past week several Devonian tests were started in Township 1n-2e, in which township the field was opened by the Texas Co. in Section 5. Texas made a location for No. 11 C. Friederich, 330 ft. from the south and 190 ft. from the west lines of SE NW Section 7; had rig up for No. 3 Murray, 330 ft. from the north and 450 ft. from the east lines of SE SW Section 7; No. 1 M. Murray, 330 ft. from the north and 200 ft. from the east lines of NW SW Section 7; No. 27 Kalkbrenner, 1,816 ft. from the south and 403 ft. from the east lines of SW¼ Section 5, and No. 26 Johnson, 1,806 ft. from south and 483 ft. from the east lines of SW¼ Section 5. Mammoth Producing & Refining Co. had rig up for No. 2 Leibel, 318 ft. from the north and 386 ft. from the east lines of NE NE Section 17. Frontier Oil & Gas Co. had rig up for No. 2 Fyke heirs, 815 ft. from the south and 31 ft. from the west lines of SE¼ Section 5. Paul Mosebach had rig up for No. 2 Schormann, C SW SE SE Section 5. The Devonian-lime play in the Centralia townsite in Clinton and Marion counties was also extended. Fifteen Devonian starts were made in the townsite in the past week, most of them on the west side.

Progress of Wildcats

In Macon County Eureka Oil Corp.'s No. 1 Rhodes, SW SW NW Section 28-17n-3e, was shut down for repairs at 2,238 ft. A core taken at 2,226½-38 ft. recovered hard dry dolomite and cores higher up showed no indications of oil.

In Edgar County Sam J. Burkitt's No. 1 Schoitker, C W½ NW SE Section 30-16n-11w, was drilling at 1,550 ft.

In Coles County East Oakland Syndicate was cleaning out at 2,290 ft. in No. 1 Temple, SW cor. SE NE Section 36-14n-10e. Carter Oil Co.'s closely watched test, No. 1 Seaman, NW NE SW Section 35-12n-7e, was drilling at 2,717 ft. Salem lime was topped at 2,222 ft. and Borden at 2,389 ft. The hole is being carefully cored, but had not uncovered any encouraging sign of production down to the total depth named.

In Christian County Moore and others were underreaming at 1,040 ft. in No. 1 Meyers, SE SW SE Section 7-13n-1e.

In Shelby County Baugher's No. 1 Anderson, NW cor. Section 36-12n-5e, was drilling at an estimated depth of 460 ft. Seaboard & Wiggins' No. 1 Miller, SW SW SE Section 32-11n-2e, topped Benoist sand at 1,627 ft., and was drilling at 1,636 ft.

In Clark County Harvey and others' No. 1-B Phillips, NW NE NE Section 18-11n-14w, was drilling at 425 ft. Allen & Sherritt's No. 1 Biggs, NW NW SW Section 9-11n-14w, was drilling at 1,225 ft. Stricker's No. 1 McFarland, NW NE SW Section 19-10n-13w, had Devonian-lime top at 1,544 ft. and drilled to 2,833 ft. The hole was plugged back to 2,820 ft. and shut down for orders.

In Montgomery County Henderson's No. 1 Eaglehoff, SW SE SW Section 19-10n-4w, was drilling at 662 ft. Henderson's No. 1 Ostermeier, NW NW NW Section 30-10n-4w, was at a total depth of 642 ft.

In Bond County Bond Oil Co.'s No. 1 Wade, SW SE SW Section 16-6n-4w, total depth 1,856 ft., pumped 1½ bbl. of oil and 7 bbl. of water per day.

In Lawrence County J. L. Williams had pits dug for No. 1 Mark Smith, NW NW SW Section 29-5n-12w. Dee Miller had rig up for No. 1 Stout, NW NE SW Section 3-5n-13w. Bowman's No. 1 Gray, C NE SE Section 13-4n-11w, was drilling below 800 ft. J. W. Cannon and others' No. 1 Zaner, SW SE SW Section 10-7n-11w, drilling at 1,367 ft. Kentucky Natural Gas Co.'s No. 1 Crews, C NE SW Section 30-4n-10w, making repairs, total depth 1,030 ft. Same company was rigging up standard tools for No. 1 Gerhardt, C NW SW Section 18-4n-10w. Walter Payne's No. 1 Monjar, SW NE NW Section 28-4n-11w, was drilling at 1,330 ft. W. L. Dorsey's No. 1 Vandermost, SE SW NW Section 2-2n-12w, preparing to run casing to 830 ft.

In Madison County J. R. Wilson's No. 1 Danderman, SW cor. Section 1-5n-6w, was drilling at 590 ft. R. J. Jennings and others were drilling at 633 ft. in No. 1 Wagner, SE SW NW Section 22-4n-5w.

In Marion County Big Four Oil & Gas Co.'s No. 1 Chaffin, NW cor. NE NW Section 9-2n-1e, shut down for orders at 3,012 ft.

In Edwards County Nash & Morrison's No. 1 Prudential Life, SE NE NE Section 24-2s-10e, making repairs, total depth 930 ft.

In Wayne County New Penn's No. 1 Elliott, SW NW NE Section 35-2s-8e, total depth 3,318 ft., plugged back to 2,000 ft. and redrilling at 2,135 ft.

In Hamilton County Texas Co.'s No. 1 Provident Mutual, C N½ NW NW Section 21-3s-7e, drilling at 2,865 ft.

In Randolph County Ralston & Beattie's No. 1 Foster, C NE SE Section 31-4s-5w, total depth 934 ft., put on pump and shut down.

In White County W. F. Fortner's No. 1 Colvin, NE NE SW Section 9-4s-14w, Benoist sand at 2,706½-13 ft., ran Schlumberger and water was developed; shut down for orders. Phillips' No. 1 Garr, C W½ NW NW Section 31-4s-11e, drilling at 3,409 ft. Phillips' No. 1 Cleveland, NE SE NE Section 36-4s-10e, shut down for orders at 3,095 ft.

In Monroe County Klatt's No. 1 Jacobs, approximately CWL Section 25-4s-10w, fishing at 515 ft.

In Jackson County M. C. Trumbull's No. 1 Bennett, CSL SE¼ Section 35-8s-5w, drilling at 2,805 ft. W. R. Davis' No. 1 Michels, NE NW NW Section 18-9s-3w, drilling at 330 ft.

In Gallatin County Exchange Oil Co.'s No. 1 Hensling, NW SW NW Section 7-8s-9e, drilling at 2,906 ft. Ste. Genevieve lime was topped at 2,837 ft. D. C. Colebeck's No. 1 Egyptian Tie & Lumber Co., SW NW NE Section 19-8s-10e, drilling at 410 ft.

Indiana Fields

(Continued from Page 57)

showed dead oil in Bethel sand at 2,372-78 ft. and water at 2,393-2,405 ft. Fotiades and others made a location for No. 1 Yates, C E½ W½ NE Section 29-3s-12w. Midwest Development Co.'s No. 1 Brock, SE SW SE Section 10-2s-9w, was drilling at 325 ft. Sloss & Walls' No. 1 Oakland City College, NW NE SE Section 13-2s-9w, drilling at 975 ft. K. T. & F. Oil Co.'s No. 1 Shoultz, NE NE SE Section 18-1s-9w, had a showing of gas at 1,246-50 ft., and oil at 1,255-61 ft., estimated good for 12 bbl. per day, with some water, will drill deeper. J. W. Chamberlain's No. 1 Shanahan, Donation 121, Township 1s-10w, drilling at 280 ft.

In Pike County George W. Miller's No. 1 Nixon, SE SW NE Section 14-3s-8w, was drilling at about 4,000 ft.

In Spencer County Snell and others' No. 1 Crowder, NW cor. SW NW was drilling at 915 ft. Snell and others' No. 1 Biggerstaff, SW SW SE Section 6-7s-7w, had sand at 1,035-45 ft., and pumped 100 bbl. of oil in a week, together with much water. It is not a completion. Damron Brothers' No. 3 Wright, C SW SW Section 20-7s-6w, sand at 906-15 ft., was completed with an initial production of 4,947,000 cu. ft. of gas.

In Vanderburg County John Knapp and others' No. 1 Nagle, NW NW SE Section 8-6s-11w, drilling at 390 ft.

In Warrick County Wintner and others' No. 1 Brockman, SW NW NW Section 13-5s-9w, was drilling at 200 ft., with the hole full of water. S. R. Travis and others' No. 1 Moyer, NW SW NW Section 13-5s-9w, had Glen Dean-sand top at 1,365 ft., and was shut down at 1,400 ft.

Northern Wildcats

Most of the northern wildcats that have been shut down because of unfavorable weather for weeks are again active.

In Daviess County Fred L. Hartman's No. 3 White,

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SW cor. NW SW Section 22-2n-7w, was drilling at 275 ft.

In Knox County Newton Pipe Line Co.'s No. 1 Like, Donation 171, Township 2n-9w, was drilling at 1,609 ft.

In Knox County Sun Oil Co.'s No. 1 Utt, Donation 182, Township 4n-9w, had a crooked hole at 820 ft. It was plugged back to 710 ft. and was drilling by at 715 ft. Michel Brothers' No. 1 Schloot, SE SE SE Section 2-5n-7w, was drilling at 940 ft. M. I. T. Syndicate's No. 1 McHenry, Donation 214, Township 5n-9w, is drilling below 3,520 ft. Hart & Williams' No. 1 Montgomery, C NE SW Section 28-5n-7w, drilling at 2,181 ft.

In Martin County Harrison Development Co.'s No. 1 Lewis, NW NW SE Section 27-5n-3w, is drilling below 735 ft.

In Sullivan County Salem Oil Co.'s No. 1 Woodward, NW NW NW Section 7-8n-9w, is shut down for orders; estimated total depth 1,625 ft.

In Vigo County Siosi's No. 1 Strain, C E½ SE NW Section 16-10n-10w, had a hole full of water at 1,270-1,305 ft., and was drilling at 1,355 ft. Eight-inch casing was set at 1,050 ft.

In Owen County W. H. Young and others' No. 1 Rice, NE NE NW Section 29-11n-3w, is shut down for orders at 1,135 ft.

In Lawrence County John M. Seip's No. 1 McGraw, NE NE SW Section 19-3n-1w, got Trenton-lime top at 855 ft., total depth 920 ft. Seip's test in C W½ NE NW Section 15-14n-5w, Putnam County, was shot with 290 qt. at 1,940-70 ft., and acidized with 2,000 gal. It was dry and abandoned. This well had been drilled to 2,829 ft. and plugged back.

In Marion County C. E. Jefferson and others' No. 1 Carter estate, was pumping and testing after having been acidized with 1,000 and 2,000 gal., and recovered some oil and water. Same operators' No. 1 Indianapolis Water Co., NE NE SW Section 15-16n-3e, was acidized with 1,000 and 2,000 gal. and put on the pump. It showed some oil and water. The crew continued testing.

In Madison County Anderson's No. 1 Coy, NE NE SW Section 1-19n-6e, had sand at 1,501-41 ft., total depth, and is shut down for orders.

In Randolph County E. G. Henderson's No. 1 Warren, SW cor. NE NE Section 16-21n-15e, was dry and abandoned at 1,167 ft. Trenton lime was topped at 1,160 ft., and there was a showing down to 1,607 ft. This is a delayed report on the completion.

In Jasper County United Development Co.'s No. 1 Woodruff, SW SE SW Section 28-31n-5w, total depth 1,000-11 ft., was finally abandoned after an unsuccessful attempt to make a small well of it.

In Randolph County C. Godwin and others' No. 1 St. John, C NE NE Section 8-21-12e, Trenton-lime top at 892 ft., show of gas at 907-12 ft., 200 ft. of water in the hole at 912 ft., drilling below 1,100 ft.

In Jay County E. K. Burke's No. 1 Outcalt, CWL E½ W½ SW Section 24-22n-14e, top of Trenton lime at 1,079 ft., total depth 1,131 ft., completed as a small producer. C. Welch's No. 8 Brinkerhoff, NW NE NE Section 21-24n-14e, Trenton-lime top at 1,035 ft., showing of oil at 1,051-66 ft., testing with 50 ft. of water and 200 ft. of oil in the hole. Petroleum Development Co.'s No. 1 Binegar, NE NE NW Section 29-24n-13e, drilling below 830 ft. D. Davis' No. 1 Perry, NW NW NE Section 17-24n-12e, drilling at 275 ft. after a long shutdown period.

Kansas Fields

(Continued from Page 71)

and others' No. 1 Pauline, SE SE NW Section 15-15-14w, was bottomed at 3,232 ft., and made daily potential of 796 bbl. of oil. Stanolind Oil & Gas Co.'s No. 6 Roesner, C N½ NW SW Section 9-15-13w, made potential of 613 bbl. of oil daily at total depth of 3,325 ft. Coralena Oil Co.'s No. 6 Dumler, C S½ N½ NW Section 36-15-14w, was an abandoned rig.

M. E. Trapp's No. 1 Grass, C N½ NW NW Section 5-15-13w, was a cellar. W. I. Southern, Inc.'s No. 1-A Berrick, C S½ SW SE Section 6-15-13w, moving in material. Cities Service Oil Co.'s No. 6 Podzus, NE SW SW Section 25-15-14w, drilling below 100 ft. Same company's No. 4 Hennessey, C N½ S½ SE Section 26-15-14w, moving in material.

Ellsworth County

Skelly Oil Co.'s No. 5 Zink, C S½ SW SW Section 32-17-10w, Ellsworth County sector of the Bloomer field, was completed in Arbuckle lime at 3,221-32 ft., total depth, pumped 262 bbl. of oil in 15 hours and potential was calculated at 3,703 bbl. daily.

Same company's No. 5 Moran, C S½ SE SE Section 31-17-10w, pumped 135 bbl. of oil in 9 hours and made calculated potential of 4,643 bbl. daily. Arbuckle lime was found at 3,221-25 ft., total depth.

Phillips Petroleum Co. and others' No. 1 Stoltenberg, NE NE SW Section 28-16-10w, Stoltenberg pool, had Arbuckle lime at 3,311-28 ft., total depth, pumped 88 bbl. of 45.2-gravity oil in 8 hours and made potential of 241 bbl.

Continental Oil Co. and others' No. 4 Buehler, SE SE NE Section 33-17-8w, Edwards pool, pumped 287 bbl. of oil in 8 hours from Arbuckle lime found at 3,192-25 ft., total depth, and made potential of 862 bbl. daily.

Hollow Drilling Co.'s No. 1 Janzen, C S½ SW SE Section 18-17-9w, Wilken pool, drilled Arbuckle lime at 3,251-59 ft., total depth, pumped 16 bbl. of oil an hour and was completed for top allowable potential of 3,000 bbl.

Cities Service Oil Co.'s No. 2 Wessler, C E½ E½ SE Section 19-17-9w, was acidized, potential was calculated at 2,163 bbl. of oil and it was completed in Arbuckle lime at 3,223-28 ft., total depth.

Simpson Oil Co.'s No. 1 Kruse, C N½ NE NW Section 20-17-9w, was completed at 3,270 ft., total depth, dry and abandoned.

McPherson County

Bradley Brothers and others' No. 1 Mattson, C S½ SE SW Section 19-20-5w, Bornholdt pool, McPherson County, found Mississippi chat at 3,378-86 ft., total depth, flowed 60 bbl. of oil in 4 hours through 1-in. choke, flowed 18 bbl in 2 hours through ½-in. choke and made daily potential of 630 bbl.

H. & M. Drilling Co. and others' No. 3-A Boals, C NE NW Section 24-19-2w, was completed at 2,975 ft., total depth, for 86 bbl. of oil daily. Republic Natural Gas Co.'s No. 1 McMillen, C S½ SW SW Section 7-20-5w, made daily potential of 3,000 bbl. of oil at total depth of 3,366 ft. Continental Oil Co.'s No. 2 Bornholdt A, C S½ SE SE Section 30-20-5w, made maximum daily potential of 3,000 bbl. of oil at total depth of 3,381 ft.

Rice County

Gulf Oil Corp.'s No. 5 Stout, C S½ NW NE Section 6-18-10w, Bloomer pool, Rice County, found Arbuckle lime at 3,225-30 ft., total depth, swabbed 292 bbl. of oil in 5 hours, and was completed for top potential of 3,000 bbl. daily.

Bishop Oil Co.'s No. 2 Reese, NW NE NW Section 22-19-9w, Chase field, pumped 60 bbl. of oil and 90 bbl. of water daily from Lansing lime at 2,949-53 ft., total depth 3,233 ft.

Eldorado Refining Co.'s No. 5 Gossman, C E½ E½ SW Section 5-21-7w, was completed at 3,342 ft., total depth, making daily potential of 1,891 bbl. of oil.

Barton County

Sharon Drilling Co.'s No. 1 Noe, NE cor. Section 14-20-11w, Silica field, Barton County, penetrated Arbuckle lime at 3,268-75 ft., total depth 3,310 ft., and potential was calculated at 2,499 bbl. of 45.2-gravity oil daily.

Barnsdall Oil Co.'s No. 3 Rous, C N½ SE SW Section 28-16-11w, Prusa area, had Arbuckle lime at 3,353-58 ft., total depth, and was completed for maximum allowable potential of 3,000 bbl. of oil.

Sinclair Prairie Oil Co.'s No. 1 Dolecheck, C W½ NW NW Section 32-16-11w, Krier area, topped Arbuckle lime at 3,353 ft., had oil and water showing and was abandoned at 3,361 ft., total depth.

New operations in Barton County: Cities Service Oil Co.'s No. 5-A Bitter, C N½ NE NW Section 5-16-13w, location; same company's No. 2 Staskopf, C S½ NW SW Section 17-16-13w, building rotary rig; Shell Oil Co., Inc.'s No. 8-B Bitter, NE SW SE Section 6-16-13w, cellar.

Stafford County

Stanolind Oil & Gas Co.'s No. 9 Fuller, C W½ SW SW Section 11-24-11w, Zenith field, Stafford County, found Misener sand at 3,749-82 ft., total depth 3,822 ft., flowed 81 bbl. of oil in 4 hours and potential was calculated at 1,194 bbl.

Transwestern Oil Co.'s No. 1 Banker A, C E½ NE SE Section 10-24-11w, made potential of 718 bbl. of oil daily at total depth of 3,801 ft. Stanolind Oil & Gas Co.'s No. 8 Martin, C W½ NW NW Section 14-24-11w, made daily potential of 2,129 bbl. of oil at total depth of 3,833 ft.

Stanolind Oil & Gas Co.'s No. 2 Hullman, C W½ SE NE Section 10-24-1w, was a location.

In Phillips County, Hess and others' No. 1 Kincaid, SW NW NW Section 30-5-17w, was a cellar.

Cowley County

Arthur Brewer's No. 2 Zerger, C E½ SW NE Section 33-30-4, Darien pool, Cowley County, topped Mississippi lime at 2,955 ft., had a hole full of water at 3,053-67 ft., total depth, and was abandoned.

Hawkeye Oil Co.'s No. 5 Moon, NE SE SW Section 16-32-5, Frog Hollow pool, was completed for 638 bbl. of oil daily at 3,104 ft., total depth.

Same company's No. 1 Moneyhan, SE SW SE Section 16-31-4, was rigging rotary. Jock Garden and others' No. 1 Rahn, NW NW SW Section 13-34-5, was moving in material.

Lyon County

Moss Petroleum Co.'s No. 3 Pixlee, C N½ S½ SE Section 34-21-10, Richey-Moore area, Lyon County, was bottomed at 2,188 ft., pumped 25 bbl. of oil in 3 days, was acidized, produced only water and it was abandoned.

Johnson County

Gardner Oil Co.'s No. 1 McCann, NW NE SE Section 15-14-22, Gardner pool, Johnson County, was completed for 5 bbl. of oil daily in lower Bartlesville sand at 833-850 ft., total depth.

Greenwood-Butler Counties

Sinclair Prairie Oil Co. completed No. 60 Browning, NE NE SW SW Section 20-22-10, Greenwood County, for 25 bbl. of oil daily at total depth of 2,346 ft.

A. M. Landon's No. 9 Texas-Johnson, NW NE SE NE Secton 22-24-12, Greenwood County, was bottomed at 1,730 ft. and produced 20 bbl. of oil daily.

Sinclair Prairie Oil Co.'s No. 3 Graham, SE NW NE SE Section 4-26-5, Butler County, was completed for 25 bbl. of oil daily at 2,633 ft., total depth.

Saco Oil Co.'s No. 1-A Marshall, C SW SW Section 9-27-6, Butler County, produced 30 bbl. of oil daily at total depth of 3,153 ft.

Reed and others' No. 1 Axton, SE NW NE Section 17-28-11, new test in Greenwood County, was drilling below 50 ft.

Oil Taxation in Texas Imperils the Industry

The Texas oil industry is the state's greatest source of future wealth and employment, Dr. J. C. Karcher, independent oil operator and geophysicist, of Dallas, Tex., told the Fort Worth Kiwanis Club.

"Those who continually seek greater tax revenues from Texas oil apparently look only at today's situation," Dr. Karcher said. "Seemingly they are concerned only with the urgency to find more revenue with which to meet the constantly rising cost of state government. They fail to view the state's oil industry as its greatest source of future wealth and employment.

"Nor do they stop to consider the tremendous cost of finding the present known oil reserves of Texas, and the fact that the utmost benefit to the state and its people can be fully realized only through the ultimate production of those reserves, and the maintenance of an adequate future oil supply through continued exploration and development.

"As the tax bill increases, either the profits of the industry must decrease, or the consumer must pay a higher price for his gasoline and other petroleum products. Assuming that the consumer is unwilling to pay an increased price, then the increase in taxes must further reduce the profits of the industry.

"To maintain adequate future reserves of oil in Texas, it is decidedly necessary that exploration and development be continued without interruption. If exploration for new sources of oil supply were to cease today, the state and its local subdivisions would cease to collect taxes on production and oil in place in less than 23 years. Likewise, more than a million persons living in Texas today who are dependent upon the oil industry for their livelihood would cease to earn their living from this industry in about 22 years.

"The state, its local subdivisions of government, and all the people of Texas thus have a vital interest in defeating unwise and inequitable tax measures which would further hamper an already overburdened industry in trying to discover and develop the new oil reserves upon which the prosperity of our state so materially depends."

Texas and Louisiana Gulf

By NEIL WILLIAMS

Deeper Pays and Extensions In 2-State Gulf Coast Area

HOUSTON, Tex., Mar. 4.—While there was no outstanding attraction reported from Gulf Coast developments the past week, the testing of a deeper sand in the Rosenberg field, Fort Bend County, and the announcement of several important wildcat locations drew considerable attention.

Humble Oil & Refining Co. apparently extended the Rosenberg field, Fort Bend County, and opened gas or distillate production from a new sand, as No. 1-B Miller, an outpost northwest of production was flowing gas and wash water while cleaning out through a ¼-in. choke under a tubing pressure of 1,750 lb. The well is bottomed at 8,530 ft. and the flow is from a new sand at 8,490-99 ft., several hundred feet below the discovery horizon. The same company has derrick up for No. 1 Robert Kroesche in the H.&T.C. Survey, Section 11, about 1 mile southeast of the discovery well.

Locations for two wildcats were made in Brazoria County, and both tests are expected to be drilled below 10,000 ft. Approximately 8 miles southwest of Angleton Glenn H. McCarthy is moving in material for No. 1 W. B. Munson in the Samuel Carter Survey, while Phillips Petroleum Co. staked location for No. 1 McIlvaine in Section 27, A.C.H.&B. Survey. Both tests are located on interesting geophysical pictures and will be drilled in search of the deep sand recently opened at Anchor and Chocolate Bayou field.

Pool Extensions

A slight east extension to the Seabreeze field, Chambers County, looms as Sun Oil Co.'s No. 1 Whitney is coring below 8,430 ft., after logging gas sand at 8,298-8,336 ft., and sand showing oil and gas at 8,395-8,412 ft., and at 8,424-27 ft.

The north extension area of the South China field, Jefferson County, was further defined as Magnolia Petroleum Co.'s No. 1 B. E. Quinn was abandoned at 7,902 ft. The well is ½ mile east of production. J. K. Hughes entered this portion of the field by staking location for No. 1-C Guiterman, just south of the two producing wells recently completed by Titanic Oil Co.

Approximately 5 miles southwest of the field, and about 3 miles northeast of the Fannett field, Jefferson County, Titanic Oil Co. and others made location for an 8,800-ft. test on the Clubb estate in the J. C. Lawhon Survey. Several major companies holding leases in the area are reported to be supporting the well financially.

On the south edge of the Martha field, Liberty County, Stanolind Oil & Gas Co.'s No. 1 Ross perforated casing at 8,135-40 ft., and the well flowed 90 per cent salt water and 10 per cent oil. The perforations have been squeezed off and the well is being retested. Location for another test was announced by the company for No. 1 H. W. Garrow in the I.&G.N. Survey No. 7, just southeast of No. 1 Ross.

Friendswood Development

Additional development on the north side of the Friendswood field is anticipated following the completion of Commerce Oil Co.'s No. 1 O. P. Woodburn, A Whitlock Survey. The well is flowing an estimated 25 bbl. of oil per hour through a ¼-in. choke from sand at 6,045-67 ft. The well is approximately 990 ft. north of production, just southeast of Humble Oil & Refining Co.'s No. 1 Woodburn, a dry hole.

Wildcatting remains active in Wharton County as location for another test was announced. The newest test was made in the East Bernard area by Cockburn Oil Corp., and is located on the Leveridge lease in the Jonathan Scott Survey. North of the Louise field, O. C. Garvey's No. 1 Stockton was abandoned at 4,592 ft., and the same operator is moving the rig 1 mile south of the abandoned hole for No. 1 T. N. Menefree. Strake Petroleum Co.'s No. 1 Poole, a Wilcox test located in the Lissie area is drilling below 8,825 ft. In the El Campo area Magnolia Petroleum Co.'s No. 1 Swanson is drilling in shale below 5,248 ft.

Louisiana Fields

Along the Louisiana Coast, several wildcats and outpost wells on proven structures were attracting attention. On the Bayou Pigeon prospect, Iberia Parish, Plymouth Oil Co.'s No. 1 McHugh is bottomed at 10,000 ft., and an electrical survey is being made. This well may be carried deeper or casing cemented for a production test of three sands which have shown pipeline oil on drill-stem tests.

On the Bay Brussel prospect, La Fourche Parish, Tide Water Associated Oil Co. was testing No. 1 Louisiana Delta farms at 11,270-80 ft. This well has been in the process of completion for several weeks, and a series of tests made through perforated casing at intervals from 8,700-11,000 ft. showed gas, distillate and salt water.

Drilling Below 11,000 Ft.

In the Paradis field, St. Charles Parish, Texas Co.'s No. 3 L. L. & E. Paradis is drilling below 11,025 ft. Seven-inch casing was recently cemented at 10,490 ft. after sand showing oil was cored in a new horizon at 10,188-10,256 ft.

In the Grand Lake field, Cameron Parish, Amerada Petroleum Corp.'s No. 3 State, perforated casing at 8,832-8,405 ft., and the well flowed 432 bbl. per day through a ⅛-in. choke. Superior Oil Co.'s No. 7 State is bottomed at 8,990 ft. and casing was cemented on bottom preparatory to testing through perforated casing at 8,500 ft.

W. T. Burton and others' No. 1 Industrial Lumber Co., a deep well on the flank of the Starks field, Calcasieu Parish, was abandoned at a total depth of 7,416 ft. This well showed indications of opening production from a new sand when it tried to blow out several weeks ago. Several attempts to complete the well failed due to mechanical trouble. The sand section was logged at 7,315-28 ft. and 7,339-49 ft.

Another failure was reported for the Abbeville field, Vermilion Parish, with the abandonment of Continental Oil Co.'s No. 1 Meaux. The well was drilled to a total depth of 11,545 ft., and several production tests at intervals from 7,900 to 11,345 ft., developed salt water. The well is about 1 mile northeast of production.

Jennings East Flank Production

On the east flank of the old Jennings field, Acadia Parish, Gulf Oil Corp. was preparing to complete No. 42 Arnaudet after a drill-stem test at 7,970-83 ft. recovered pipe-line oil. On the southwest flank of the dome Glassell & Glassell were plugging back No. 8 Trushel, preparatory to testing above 8,600 ft. This well is the deepest drilled on the dome, having reached a depth of 10,768 ft. before the operators decided to plug back.

In Terrebonne Parish Barnsdall Oil Co.'s No. 1 Nelson, Section 2-21s-11e, is drilling in shale below 10,859 ft. The well is reported to have shown some gas below 10,000 ft.

Texas Co.'s No. 1 State, Cote Blanche dome, St. Mary Parish, is coring in shale and lime below 7,646 ft. No additional showings have been reported since the well passed the 7,334-87-ft. horizon. This is the first deep test to be drilled on this old structure and the progress of the well is being watched with interest.

S. W. Richardson's No. 1 Hillyer-Edwards, a wildcat on the Wilcox trend, Rapides Parish, is drilling in shale below 8,959 ft. The Wilcox was topped at 7,952 ft., and after salt water was cored in the formation at 7,955-8,000 ft., the operator decided to drill to 9,500 ft. in search of a new horizon.

In the Port Barre field, St. Landry Parish, Texas Co. was preparing to test a new sand logged in No. 27 Botany Bay. The well was drilled to a total depth of 6,239 ft., and casing is being cemented to test sand cored at 6,053-93 ft. If production is obtained, the well will be the deepest producer in the field.

A northwest extension to the Eola field, Avoyelles Parish, was indicated as Gulf Oil Corp. and Tide Water Associated Oil Co. cemented casing in No. 1 Mouliere after coring 35 ft. of sand in the Wilcox formation. Casing will be cemented at 8,568 ft. Location is in Section 1-2s-2e.

Danciger Oil & Refining Co. is rigging up for a second test in the southeast extension area of the Villa Platte field, Evangeline Parish, where the previous week the company completed No. 1 Vidrine to extend the Wilcox pay, approximately 2,000 ft. The new test is No. 2 Vidrine, located 1,398 ft. south of the north line and 466 ft. east of the west line of a 172-arpent tract in Section 1-4s-2e. A potential test on the extension producer showed an initial production of 295 bbl. of 42.7-gravity oil per day through a ⅛-in. choke. Production is from sand at 10,133-64 ft.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Chambers County

South Cotton Lake field: Salt Dome Oil Corp.'s No. 1-L Wallace, perforated casing 6,506-10 ft., 114 bbl., ⅛-in. choke.

Fort Bend County

Thompson field: Gulf Oil Corp.'s No. 5-B Wolters, sand 5,419-40 ft., 107 bbl., ⅛-in. choke. Humble Oil & Refining Co.'s No. 22 Davis, sand 5,423-40 ft., 510 bbl., ¼-in. choke.

Galveston County

Hastings field: Stanolind Oil & Gas Co.'s No. 2 Dewitt, 6,130 ft., 375 bbl., ¼-in. choke. League City field: Phillips Petroleum Co.'s No. 2 Rice, perforated casing 8,695-8,700 ft., 238 bbl., ⅛-in. choke.

Harris County

Fairbanks field: British American Oil Co.'s No. 1 Swonke, 8,089 ft., dry and abandoned. Housh & Thompson's No. 2 Abraham, sand 6,042 ft., 487 bbl., ¼-in. choke. Friendswood field: Commerce Oil Co.'s No. 1 Woodburn, perforated casing 6,045-55 ft., 600 bbl., ¼-in. choke. Humble Oil & Refining Co.'s No. 18 Brazo Oil Co., sand 1,736-56 ft., 180 bbl., ¼-in. choke. Wilson Oil Co.'s No. 16 House, 3,150 ft., 132 bbl., ¼-in. choke.

Jackson County

West Ranch field: Magnolia Petroleum Co.'s No. 40-A West, perforated casing 5,105-13 ft., 397 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 47-A West, perforated casing 5,128-35 ft., 450 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 48-A West, perforated casing 5,121-29 ft., 608 bbl., ¼-in. choke. Superior Oil Co.'s No. 1 Drummond, perforated casing 5,560-75 ft., 583 bbl., ⅛-in. choke. Ganado field: Texas Co.'s No. 2 Mauritz, sand 5,100-09 ft., 80 bbl. fluid per day, 10 per cent salt water, ⅛-in. choke.

Polk County

Segno field: Gulf Oil Corp.'s No. 28 Wing, 8,240 ft., 291 bbl., ¼-in. choke.

Wharton County

Magnet field: Humble Oil & Refining Co.'s No. 18 Cockburn sand 5,500-55 ft., 324 bbl., ¼-in. choke. Pan American Production Co.'s No. 1 Halamicek, 5,553½ ft., 107 bbl., ¼-in. choke.

West, Central and Panhandle Texas

By
D. H. STORMONT

Holt Horizon Failure Does Not Deter Other Explorers

MIDLAND, Tex., Mar. 4.—A new 5,200-ft. Holt-horizon wildcat location was staked in the past week to offset the indicated failure of another, thus keeping the deep-drilling campaign throughout Ector and surrounding counties at the head of field activity for another week. Together with the deep activity throughout the southern Permian basin area was the completion of a ½-mile outpost to the Johnson area between the Foster and the North Cowden fields.

The new Holt-horizon wildcat location was made by Barnsdall Oil Co. and is to be No. 1 B. H. Blakeney, 1,980 ft. from the north line and 660 ft. from the east line of Section 2, Block A, Public School Land Survey. The location is about a mile northwest of the discovery well in the Holt horizon. It is northwest of the North Cowden field and just south of the Andrews County line. Contractor was rigging up rotary for a 5,200-ft. hole.

The possible failure above mentioned is Landreth Production Corp. and Shell Oil Co., Inc.'s No. 1-A Johnson, Section 43, Block 43, T-1-S, T.&P. Survey, in the central part of the county. In a swabbing test of 24 hours' duration the well made only 1½ bbl. of water hourly from the Holt horizon drilled from 5,200 to 5,233 ft. The wildcat was last reported coring below 5,240 ft. toward completion of its 5,300-ft. contract.

North Cowden-Johnson Area

Indicating further development of the Johnson link area between the North Cowden and Foster fields, Sunray Oil Co. acquired scattered tracts amounting to 720 acres in the northern part of the Foster field and in the Johnson area. Immediate drilling of the tracts is planned. In Block 43, T-1-S, T.&P. Survey, the company acquired the N½ SE¼ Section 34, the SW¼ Section 39, and SW¼ and W½ NW¼ Section 47. In Block 43, T-2-S, T.&P. Survey, the company acquired the NW¼ Section 3, S½ SE Section 2, and S½ NW Section 1. The discovery well in the Johnson area is in the north part of the W½ NW Section 47 and was included in the acreage acquired. A new completion in the Johnson area, giving it a ½-mile-west extension, is J. D. Bodkins' No. 1-J Johnson, NW cor. NE¼ Section 46, Block 43, T-1-S, T.&P. Survey. The test drilled pay from 4,080 to 4,105 ft. and was last reported preparing to deepen into the saturated section. The operator has already erected derrick for No. 1-E Johnson, in the northeast corner of the same tract. No. 1-E will be a west offset to the Johnson-area discovery well.

Pecos County

Humble Oil & Refining Co.'s No. 1 B. D. Young, Ordovician wildcat in northern Pecos County, encountered trouble during the week, two fishing jobs having developed. The bit was lost at 5,390 ft. early in the week, but was recovered after a day of fishing. After drilling only 17 ft. or to 5,407 ft., the bit was again lost and the crew was last reported fishing. With the top of the Ellenburger lime not yet logged, the test was still in the detrital zone. The deep wildcat is in Section 33, Block 10, H.&G.N. Survey, about 8 miles northwest of the Apco field.

Wildcat Locations

Wildcat locations were made in three counties during the past 2 weeks, one each in Concho, Crockett, and Terry counties. Charter Oil & Gas Co. is moving in material for No. 1 T. Y. Hill, in the southwestern part of the Julius Frederick Survey 1693, Abstract 198, Concho County. In Crockett County Soma Oil & Gas Syndicate located No. 1 W. T. Noelke in the northwestern part of Section 30, Block GG, H.E.W.T. Survey. New Terry County wildcat is by Tide Water Associated Oil Co. and is No. 1 Lowe, southwestern part of Section 3, Block 37-C, Public School Land Survey. It is located about 10 miles north and slightly west of the Cedar Lake field in Gaines County.

Hockley County

Hockley County's indicated new field opener of last week failed to show after plug was drilled and it was being carried deeper. The well is Helmerich & Payne, Inc.'s No. 1 Whiteface Farms, Labor 22, League 77, Reeves County School Land Survey, 14 miles northwest of the Slaughter field. It was last reported drilling below 4,732 ft. Production had been indicated from a section drilled from 4,455 to 4,714 ft. Standard tools are being used for deepening.

Stonewall County

Almost unnoticed for the past 2 months, two wildcats have been steadily drilling ahead in Stonewall County. As the week closed, the deeper of these tests was reported to have found a showing of oil in the Ordovician series. It is W. I. Southern's No. 2 H. T. Carlisle, Section 293, Block D, H.&T.C. Survey, about 6 miles northwest of Swenson. The well, which is the second drilled in the Carlisle pool, had been deepened from the Palo Pinto lime at 5,100 ft. in search of more prolific pay. Tops of the Ordovician markers were not checked during the week but the operator believes the showing is in the Ellenburger lime. The 5-in. hole filled 700 ft. with oil the first hour and in deepening 3 ft. into the pay filled to 1,100 ft. or at the rate of about 100 ft. per hour. Preparations were being made for testing as the week closed.

The other Stonewall County wildcat is Shell Oil Co., Inc.'s No. 1 Smith, Section 143, Block 1, H.&T.C. Survey. It was last reported drilling below 5,348 ft. on a 6,000-ft. contract.

WEST TEXAS FIELD COMPLETIONS
(24-hour gages)

Andrews County

In the Emma field, Sinclair Prairie Oil Co.'s No. 10 E. Cowden, 4,144-4,252 ft., 1,013 bbl.

Crane County

In the McElroy field Gulf Oil Corp.'s No. 210 McElroy, 2,645-2,850 ft., 2,748 bbl. Gulf Oil Corp.'s No. 211 McElroy, 2,725-2,928 ft., 1,390 bbl.

Ector County

In the Jordan field, Sinclair Prairie Oil Co.'s No. 5 University, 3,502-80 ft., 808 bbl.

In the North Cowden field, Arrow Drilling Co.'s No. 1 Midland Farms, 4,445-96 ft., 520 bbl. Barnsdall Oil Co.'s No. 5 R. W. Smith, 4,046-4,190 ft., 1,511 bbl.

In the Foster field Broderick & Calvert's No. 11-A Holt, 4,215-4,428 ft., 1,943 bbl. Stanolind Oil & Gas Co.'s No. 31-B E. F. Cowden, 4,050-4,205 ft., 378 bbl.

In the Goldsmith field Gulf Oil Corp.'s No. 247 Goldsmith, 4,187-4,242 ft., 671 bbl. Gulf Oil Corp.'s No. 250 Goldsmith, 4,160-4,224 ft., 1,496 bbl. Phillips-Pure's No. 77 C. Cowden, 4,107-59 ft., 1,152 bbl. Phillips-Pure's No. 78 C. Cowden, 4,111-62 ft., 3,228 bbl.

In the Johnson field I.T.I.O. Co.'s No. 1-F J. L. Johnson, 4,045-4,171 ft., 538 bbl.

Gaines County

In the Seminole field Amerada Petroleum Corp.'s No. 2-A Riley, 5,110-5,320 ft., 618 bbl. Amerada Petroleum Corp.'s No. 1 W. Turlin, 5,092-5,280 ft., 706 bbl. Atlantic Refining Co.'s No. 2-B Riley, 5,130-5,271 ft., 821 bbl. Ohio Oil Co.'s No. 1 Ida Tippett, 5,057-5,315 ft., 1,085 bbl. Osage Drilling Co.'s No. 5-A Tippett, 5,080-5,324 ft., 792 bbl.

Hockley County

In the Slaughter field J. W. Murchison's No. 4 Slaughter, 4,908-73 ft., 364 bbl.

Howard County

In the Snyder field Ennis Oil Co.'s No. 20 Texas Land & Mortgage Co., 2,630-2,879 ft., 1,551 bbl.

Nolan County

A wildcat, Hose & Metcalf's (formerly Green, Owens & Metcalf) No. 1 Tipton, 5,136-71 ft., 9 bbl. oil and 9 bbl. water.

Pecos County

In the Lehn field Anderson & Campbell's No. 1 Masterson-Lehn, 1,697-1,720 ft., 76 bbl.

In the Pecos Valley field Mid-Continent Petroleum Corp.'s No. 10 Jasper County Royalty Co., 1,639-53 ft., 218 bbl.

Upton County

In the McCamey field, Humble Oil & Refining Co.'s No. 27-A Ricker, 2,142-91 ft., 55 bbl. Sargeant, Rutter & Wilbank's No. 5 Elder, 2,215-51 ft., 448 bbl. Texas Pacific Coal & Oil Co.'s No. 1-C Sherk, 2,576-2,696 ft., 35 bbl., old well drilled deeper.

Ward County

In the Estes field Gulf Oil Corp.'s No. 129 Estes, 2,517-2,692 ft., 3,956 bbl. Sinclair Prairie Oil Co.'s No. 24 Archenhold, 2,445-2,652 ft., 343 bbl. West Texas Oil & Royalty Co.'s No. 5-C University, 2,450-2,672 ft., 2,045 bbl. In the Hutchins area, Gulf Oil Corp.'s No. 136 Hutchins, 2,552-2,735 ft., 1,098 bbl.

In the Sealy field Sinclair Prairie Oil Co.'s No. 7 Sealy, 2,888-3,063 ft., 1,307 bbl.

Winkler County

In the Halley field Bowden & Lochausen's No. 1 Lovett, 3,073-3,240 ft., 124 bbl.

Yoakum County

In the Wasson field Aloco Oil Co.'s No. 9-A Miller, 4,967-5,155 ft., 1,685 bbl. Honolulu Oil Corp.'s No. 4-825 Kendrick, 4,990-5,130 ft., 929 bbl. Humble Oil & Refining Co.'s No. 1-B Stanford, 4,900-5,245 ft., 151 bbl. Magnolia Petroleum Co.'s No. 8 Mahoney, 5,025-5,195 ft., 518 bbl. Oil Development Co. of Texas' No. 4-761 fee, 4,900-5,200 ft., 1,564 bbl. Olson Oil Co.'s No. 5 Oil Development Co., 4,960-5,216 ft., 2,194 bbl. Plymouth Oil Co.'s No. 2-B R. Bennett, 5,060-5,245 ft., 692 bbl. Skelly Oil Co.'s No. 4 Hancock, 5,035-5,181 ft., 1,101 bbl.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Mar. 4.—Possibility of a new Palo Pinto-lime field in Jones County, together with starting of a new 4,000-ft. Palo Pinto-lime wildcat test in the same county, centered attention in the West Central Texas district.

The indicated field opener is Owens-Snebold Oil Corp.'s No. 1 G. I. Jerrey, NE¼ Section 7, T.&P. Survey, in the western part of the Sandy Ridge area. The wildcat topped the Palo Pinto lime at 3,466 ft. and found saturation at 3,478 ft. The section was penetrated 11 ft. and hole was bottomed at 3,489 ft., still in saturation. The wildcat is reported to have checked 50 ft. higher than the same operator's dry hole of last year a mile to the south, in the NW cor. of Section 31. Plug was scheduled to be drilled early this week.

Jones County's new Palo Pinto-lime wildcat location was made by Iron Mountain Oil Co. and will be No. 1 I. F. Wiley, 330 ft. from the south and east lines of the lease and 2,348 ft. from the west line of Section 14, Deaf and Dumb Asylum Lands Survey. It is on a block of 2,300 acres in the north central part of the county. Drilling contract has been let and work will start immediately.

Approximately 3 miles north and slightly west of Hawley, in Jones County, a new outpost to the Prichard pool was preparing to spud. It is W. I. Southern's No. 1 A. A. Hayden, NW cor. Lot 5, G. Martinez Survey. Contract depth is 4,000 ft. which is expected to carry it to the Palo Pinto lime.

Throckmorton County was given a new 4,000-ft. wildcat when Falls Production Co., Wichita Falls, located No. 1 J. C. Parker, 1,800 ft. from the south line and 900 ft. from the east line of Section 990, T.E.&L. Survey. It is about 5 miles northwest of the town of Woodson and is in the old shallow Falls pool.

Erath County will be given a 3,500-ft. wildcat test by E. H. Young's No. 1 J. B. Mills, located 603 ft. south and 695 ft. east of the northeast corner of the R. Davenport Survey, but in the J. Harry Survey. It is about 5 miles northwest of Dublin.

PANHANDLE COMPLETIONS

(24-hour gages)

Carson County

Cities Service Oil Co.'s No. 35-A Burnett, 2,306-2,470 ft., 41,931,000 cu. ft. gas. Shell Oil Co., Inc.'s No. 6 Cooper A, 3,117-3,212 ft., 350 bbl. Texas Co.'s No. 17 Boney, 3,075-3,183 ft., 990 bbl. Texas Co.'s No. 20 Boney, 3,059-85 ft., 227 bbl.

Gray County

Baldridge Oil Co.'s No. 2 Davidson, 2,968-3,064 ft., 190 bbl. in 8 hours. Danciger Oil & Refining Co.'s No. 19 Powell-Beck, 2,842-95 ft., 414 bbl. Texas Co.'s No. 18 Davis, 2,705-2,850 ft., 359 bbl. Texas Co.'s No. 6 Frashier, 2,175-3,255 ft., 295 bbl. Shell Oil Co., Inc.'s No. 4 Combs, 2,890-2,920 ft., 248 bbl. Texas Co.'s No. 7 Shaw, 2,690-2,800 ft., 445 bbl. Magnolia Petroleum Co.'s No. 5 Wall, 3,263-3,290 ft., 378 bbl.

Hutchinson County

Huber Petroleum Corp.'s No. 1 Henderson, 3,180-3,356 ft., 135 bbl. Phillips Petroleum Co.'s No. 24 Perkins, 2,805-52 ft., 182 bbl. Texas Co.'s No. 19 Pond, 3,010-80 ft., 639 bbl.

Moore County

Phillips Petroleum Co.'s No. 1 Alda, 3,140-3,350 ft., 24,000,000 cu. ft. gas. Canadian River Gas Co.'s No. 3-A Kilgore, 2,896-3,326 ft., 8,575,000 cu. ft. gas.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gage)

Brown County

A wildcat, Shallow Rock Oil Co.'s No. 1 Black, Section 10, Brown County School Land Survey 361, dry and abandoned at 900 ft.; a semiwildcat, L. H. Choate's No. 1 Fuller, C. B. Jennings Survey 353, dry and abandoned at 1,246 ft.

Coleman County

A wildcat, Anzac Oil Corp.'s No. 2-H Morris, James Harris Survey 27, 2,850-2,900 ft., 724,000 cu. ft. of gas.

Comanche County

In the Amity field L. H. Choate's No. 2 Ayers, Section 5, Lampasas County School Land Survey 34, 580-86 ft., 27 bbl. St. John and Choate's No. 1 West, Section 4, Lampasas County School Land Survey 34, 578-84 ft., 18 bbl.

Fisher County

In the Bennett field S. and D. Daube's No. 2 Bennett, Section 51, Block 2, H.&T.C. Survey, 3,687-3,705 ft., 5 bbl. fluid, 50 per cent water.

Haskell County

A wildcat field opener, Nowles' No. 1 Pardue, Section 1, S.F.I.W. Survey, Abstract 475, 3,398-3,404 ft., 35 bbl.

Jones County

In the Sayles field Condor Petroleum Co.'s No. 26 Sayles, Section 5, Block 20, T.&P. Survey, 1,968-72 ft., 357 bbl.

(Continued on Page 87)

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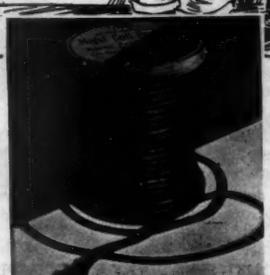

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Southwest Texas District

By
F. L. SINGLETON

Tertiary Wilcox Test Shows Oil; Others Near Completion

CORPUS CHRISTI, Tex., Mar. 4.—In the search for Tertiary Wilcox production, recently started along the Jackson shore-line trend in Southwest Texas, one well had a showing of oil and gas in broken formation, while five other tests had reached critical stages.

The most advanced test is Atlantic Refining Co.'s No. 1 Conwell, Charles Lockhart Survey, DeWitt County, which is temporarily shut down for repairs at 7,908 ft., after having cored broken sand and shale with an oil and gas showing at intervals from 7,840 to 7,908 ft. A summary of the core record is as follows: 7,840-48 ft., recovered 5 ft. of hard shale and silty sand with a gas odor; 7,848-56 ft., no recovery; 7,856-60 ft., recovered 2 ft. of tight sand with a gas odor; 7,860-68 ft., recovered 7 ft. 6 in., of which 3 ft. was tight sand with a good oil odor; 7,868-76 ft., recovered 4 ft. of hard sand showing oil and gas; 7,876-7,908 ft., recovered broken sand and shale having a gas and distillate odor. The sand section is believed to be the Queen City or Carrizo series, several hundred feet above the main Wilcox pay.

In the West Tuleta field, Bee County, Mills Bennett Production Co. and Anderson-Prichard Oil Corp.'s No. 2 D. E. Robinson is bottomed at 7,806 ft., and a protection string of 9⅝-in. casing was cemented on bottom. An electrical survey made before the pipe was started in the hole showed sand at 7,515-35 ft., and sidewall cores recovered sand with a gas and distillate odor. This well is about 1,600 ft. from the same companies' No. 1 D. E. Robinson, an abandoned hole which blew out from the Carrizo formation at 7,921 ft.

In the old Pettus field Union Producing Co.'s No. 56 Ray is drilling in shale and lime below 7,345 ft., while 7 miles southwest of the town of Beeville, Bunte Brothers and others' No. 1 Earnest is drilling in shale below 6,660 ft. A protection string of 7-in. casing was recently cemented at 5,973 ft. after the well showed considerable gas pressure in the Cockfield formation.

The two other Wilcox tests are Sinclair Prairie Oil Co.'s No. 1 Callahan ranch, Webb County, which is drilling below 4,000 ft., and Edwin M. Jones' No. 1 George West, Live Oak County.

Highly Regarded Structures

The above wells are located on highly regarded geophysical and subsurface structures in proven and wildcat areas, and further development along that part of the trend may hinge on the outcome of these tests.

In the Odem area, San Patricio County, Fred Wood was preparing to retest No. 1 Odem after the well flowed salt water with a show of oil through perforated casing at 6,910-13 ft.

Hiawatha Oil & Gas Co.'s attempt to open deep production in the Saxet field, Nueces County, was voided the past week by mechanical trouble at No. 8-B Smith. This test had reached a depth of 9,929 ft. in a sidetracked hole, and sandy shale and shale with a slight oil odor were logged at 9,913-29 ft. While going in the hole to core, the drill stem parted and several hundred feet of pipe was dropped in the hole. At the close of the week the company was plugging back to test at approximately 7,200 ft.

New Pay in Ben Bolt

Production from a new sand was opened in the Ben Bolt field, Jim Wells County, with the completion of Cimaron Oil Co.'s No. 2-A Della Whatley. The well while being cleaned out is flowing an estimated 150 bbl. per day through a ¼-in. choke from perforations at 4,910-18 ft. The well was drilled to the regular pay at 5,295 ft., and 5½-in. casing was cemented on bottom.

A potential test of Rodney Delange's No. 1-A McNeil, completed the previous week to open the first crude-oil production in the Wade City field, Jim Wells County, showed an initial production of 245 bbl. per day, flowing through a ⅞-in. choke. Tubing pressure was 480 lb. and shutin casing pressure 980 lb. Gravity of the oil tested 31.3°. Production is from a new sand through perforated casing at 4,923-29½ ft.

Reese & Dunn's No. 1 Perez, a prospective pool opener, 2 miles northwest of Alice was scheduled to be tested at the end of the week. The well was drilled to Frio-Vicksburg formation at 5,510 ft., and 5½-in. casing was cemented at 3,384 ft., preparatory to testing sand at 3,341-50 ft., where sidewall cores recovered sand with an oil and gas odor. Drilling was scheduled to get under way on two more wildcats recently announced for the county. Approximately 4 miles southeast of Sandia Texas Gulf Producing Co. is moving in material for No. 1 Gallagher, Block 16, J. H. Gallagher subdivision in the Casa Blanca grant. Contract depth is 6,250 ft. Northwest of Orange Grove H. H. Howell was preparing to spud No. 1 Bierstedt, a Frio-Vicksburg test located in the I.&G.N. Survey No. 501.

Distillate in Sejita Pool

Distillate production in the Sejita field, Duval County, was expected to be extended a short distance to the northwest as Standard Oil Co. of Texas prepared to test No. 1 A. B. Rodriguez. The well is bottomed at 6,838 ft., and 7-in. casing was cemented at 5,691 ft. preparatory to testing sand at 5,475-97 ft. and broken sand at 5,523-5,651 ft.

In the East Telferner area, Victoria County, John Mayo and Martin Thompson were moving in material for a 6,000-ft. test to be drilled on the John Heubalak lease in the V. Garcia Survey. W. V. Bowles' No. 2 D. L. Robertson, East Telferner field, is drilling below 5,900 ft. after recovering salt water on a drill-stem test in the discovery horizon at 5,160-88 ft.

Sun Field Extended

The Sun field, Starr County, was extended as Sun Oil Co. completed No. 2 Lopez. Drilled to a total depth of 4,975 ft., casing was perforated at 4,958-75 ft., and the well flowed 151 bbl. per day through a ⅞-in. choke. The same company's No. 8 McKinney recovered 278 ft. of pipe-line oil on a 21-minute drill-stem test at 4,866-81 ft., and 5½-in. casing was cemented at 4,904 ft. Midway between this field and the Kelsey field in Jim Hogg county Sun Oil Co.'s No. 1 Rodriguez cored sand showing gas at 5,608-30 ft., and on a 10-minute drill-stem test at 5,607-37 ft. tested 8½ lb. working pressure and recovered 36 ft. of drilling mud. The well is coring ahead.

The Guiterrez field, Jim Hogg County, was defined to the east with the abandonment of Titanic Oil Co.'s No. 3 Guiterrez. The well was abandoned at 3,301 ft. after a drill-stem test at 3,273-3,301 ft. tested 2 lb. working pressure, 120 ft. of drilling mud and 360 ft. of salt water.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Aransas-San Patricio Counties

McCampbell field: Abbott & Traxler's No. 1 Davis, perforated casing 7,320-30 ft., 81 bbl., 7/64-in. choke. Texas Atlas Corp.'s No. 1 Hayes-Cotten, perforated casing 7,111-15 ft., 118 bbl., 5/32-in. choke.

Caldwell County

North Dale field: Duke Matthews' No. 1 Miears, 2,808 ft., dry and abandoned.

Duval County

Cedro Hill field: Humble Oil & Refining Co.'s No. 1-F D.C.R.C., 1,444 ft., 25 bbl., 4 hours pumping, 5 per cent salt water. Seven Sisters field: Adam & Morris' No. 1 Chernosky, 2,230 ft., dry and abandoned. Harvey & Henderson's No. 1 Wright, 2,271 ft., dry and abandoned.

Jim Hogg County

Colorado field: C. Andrade's No. 2-D Trevino, sand 2,984-3,000 ft., 100 bbl., ⅛-in. choke. Kelsey field: Humble Oil & Refining Co.'s No. 19 Bass, 4,749 ft., 67 bbl., 9/64-in. choke. Humble Oil & Refining Co.'s No. 53 McGill, 4,885 ft., dry and abandoned.

Guadalupe County

Darst Creek field: Sun Oil Co.'s No. 15 Knoblock, 2,578 ft., 107 bbl., 7 hours, pumping and flowing.

Jim Wells County

Wade City field: Rodney Delange's No. 1-A McNeill, perforated casing 4,923½-28½ ft., 190 bbl., 3/16-in. choke.

Live Oak County

Oakville field: Henderson Coquat's No. 5-A Resbrock, 2,811 ft., dry and abandoned.

Medina County

Chacon Lake field: Charles Wagener's No. 37-A Medina Irrigation Farms, 345 ft., 1 bbl., pumping. Charles Wagener's No. 43-A Medina Irrigation Farms, 360 ft., 1 bbl., pumping.

Nueces County

Agua Dulce field: Union Producing Co.'s No. 5-A Rivers, perforated casing 4,713-48 ft., gas well. Richard King field: Southern Minerals Corp.'s No. 14-B King, perforated casing 5,653-58½ ft., 108 bbl., ⅛-in. choke.

Refugio County

La Rosa field: Benson & Jones' No. 3-B Rooke, perforated casing 5,722-27 ft., 135 bbl., ⅛-in. choke. Morgan, Wallace and others' No. 3 Rooke, perforated casing 5,731-37 ft., 133 bbl., ⅛-in. choke. Refugio field: W. F. Morgan's No. 2-B Mitchell, perforated casing 6,388-6,400 ft., 90 bbl., ⅞-in. choke.

San Patricio County

East White field: Plymouth Oil Co.'s No. 7 Sparks, perforated casing 5,671-75 ft., 141 bbl., 7/64-in. choke.

Starr County

Ricaby field: H. L. Bass' No. 3 Hinojosa, 1,559 ft., dry and abandoned. Rincon field: W. R. Davis' No. 8-B Slick, sand 4,236-45 ft., 129 bbl., 5/32-in. choke.

Webb County

Adami field: Arkansas Fuel Oil Co.'s No. 4-B Adami, 999 ft., 20 bbl., pumping. Bridwell Employes Oil Co.'s No. 1-B Adami, sand 961-73 ft., gas well. Glenda Oil Co.'s No. 4 Adami, sand 1,002-06 ft., 41 bbl., pumping. J. McClintock and others' No. 4 Adami, sand 975-81 ft., 42 bbl., pumping. Harry Poe Oil Co.'s No. 3 Adami, sand 964-73 ft., 40 bbl., pumping. Volpe field: Magnolia Petroleum Co.'s No. 22 Volpe, sand 2,466-77 ft., 65 bbl., pumping.

Zapata County

Blas Uribe field: Murray & Martinez' No. 1 Bruni, 919 ft., dry and abandoned. Escobas field: Texas Co.'s No. 132 Measles, sand 1,300-04 ft., 25 bbl., pumping. Mirando Valley field: Buffalo Oil Co.'s No. 28-C Hinnant, sand 1,999-2,004 ft., 58 bbl., ¼-in. choke. Interstate Minerals, Inc.'s No. 32 Lopez, sand 1,725-42 ft., 125 bbl., pumping. Interstate Minerals, Inc.'s No. 33 Lopez, sand 1,725-49 ft., 145 bbl., pumping. Interstate Minerals, Inc.'s No. 34 Lopez, 1,852 ft., dry and abandoned.

La.-Ark. Fields

(Continued from Page 67)

NORTH LOUISIANA COMPLETIONS

Sligo—Bossier Parish

Triangle Drilling Co.'s No. 2-A Schuler and others, 2,201 ft. east and 1,795 ft. south of NW cor. Section 13-17-12, flowing by heads, 35 bbl., total depth 3,112 ft.

Caddo—Caddo Parish

H. H. Dillard's No. 1 Dillard, Section 1-20-16, flowing an estimated 100 bbl. per day; total depth 1,480 ft. T. B. Donnell's No. 3 Barrett and others, Section 11-20-16, pumping 75 bbl., total depth 1,520 ft. Magnolia Petroleum Co.'s No. 30 Dillon, Section 24-21-15, pumping 70 bbl., total depth 1,625 ft. Roberts & Murphy's No. 1 Caddo Oil & Refining Co., Section 12-20-16, pumping 10 bbl., total depth 1,518 ft. Stanolind Oil & Gas Co.'s No. 3 Noel, Section 13-21-15, pumping 34 bbl. of oil, 24 bbl. of salt water, total depth 1,663 ft. Stanolind Oil & Gas Co.'s No. 2 Pitts, Section 10-21-15, pumping 15 bbl. oil, 21 bbl. salt water, total depth 1,805 ft. J. G. Strahan's No. 2 Hart, Section 29-21-16, pumping 35 bbl., total depth 2,390 ft.

Zwolle—Sabine Parish

The Hunter Co.'s No. 3-C Sabine Lumber Co., C SE NW Section 17-7-13, total depth 2,138 ft., pumping 50 bbl.

Monroe—Union Parish

We Hope Gas & Oil Co.'s No. 11 Frost Lumber Co., Section 14-22-3, 2,000,000 cu. ft. of gas, rock pressure 1,020 lb., total depth 2,215 ft. H. L. Woods' No. 3 Union Power, Section 29-21-3, 2,500,000 cu. ft. of gas, rock pressure 1,025 lb., total depth 2,210 ft.

Cotton Valley—Webster Parish

Quad Oil Co.'s No. 2 Gray, 730 ft. NW cor. SW Section 26-21-10, producing through flow valves, 90 bbl. a day; total depth 5,777 ft., Holloway sand 5,693-5,761 ft.

ARKANSAS COMPLETIONS

Magnolia—Columbia County

Arkansas Fuel Oil Co.'s No. 2-B King, C SE NW Section 21-17-20, old total depth 7,682 ft., plugged back to 7,688 ft., reperforated casing at 7,668-71 ft., dry and abandoned.

Champagnolle—Union County

Delta Drilling Co.'s No. 1 C. T. Grace, C SE SE Section 31-12-14, flowing 180 bbl. of oil and 120 bbl. of salt water, through testing tool, flowing pressure 350 lb., old total depth 6,819 ft., total depth 3,468 ft.

Schuler—Union County

Lion Oil Refining Co.'s No. 7-B Morgan, 330 ft. NW cor. W½ SE Section 18-18-17, pumping 22 bbl. of fluid 15 per cent salt water, total depth 5,871 ft.

West Texas Fields

(Continued from Page 85)

A wildcat, Danciger Oil & Refining Co., Inc.'s No. 1 Nelson, Section 186, B.B.B.&C. Survey, dry and abandoned at 3,344 ft.

In the Avoca field B. Fields' No. 3 Barnard, Section 199, B.B.B.&C. Survey, 3,243-63 ft., 800 bbl. Falls Refining Co.'s No. 1 Humphrey, Section 21, Block 4, H.&T.C. Survey, 3,259-61 ft., 131 bbl. fluid with 80 per cent water.

In the Lewis field Fain-McGaha Oil Corp.'s No. 7 Shaheen, Section 36, Block 15, T.&P. Survey, 1,873-86 ft., 41 bbl. in 4 hours. King Oil Co.'s No. 11 Carter, Section 37, Block 15, T.&P. Survey, 1,903-24 ft., 320 bbl.

Shackelford County

In the Ohio-Harbough field Georgian Oil Co.'s No. 15 Black, Section 508, T.E.&L. Survey, 598-606 ft., 4 bbl.

In the Albany field J. L. Hart's No. 3 Sanders, Section 586, T.E.&L. Survey, 586-590 ft., 5 bbl.

In the Jackson field Beams Drilling & Producing Co.'s No. 3 Jackson, Section 96, Block 12, T.&P. Survey, dry and abandoned at 1,200 ft.

Stephens County

In the Loving field Pitzer & West's No. 1 Price, Section 67, B.A.L. Survey, dry and abandoned at 4,397 ft.

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., Mar. 2.—Tests of Turner Valley crude producers conducted by engineers of the Alberta Conservation Board indicate an aggregate potential of 79,482 bbl., not including some recent completions. Computations are on the basis of the flow for a few hours through 1-in. choke, and unrestricted sustained production would probably be considerably less.

The field since February 20 has been operating on an aggregate allowable of 17,500 bbl. a day. Royalite Oil Co. has aggregate allowables of 4,145 bbl. from its own wells and 1,027 bbl. for associated companies, with a total of 21 wells. Anglo-Canadian Oil Co. with 19 wells has 3,004 bbl. for its own and 620 bbl. for associate wells. The Brown group, with 13 producers, has 1,551 bbl. a day. Independent producers, with 46 wells, have aggregate allowables of 6,784 bbl. a day.

Naphtha Producers Decline

A marked feature of the Turner Valley field has been the decline in production from the old naphtha-gas wells. Naphtha production, 156,766 bbl. for the first complete year, 1925, rose to 1,251,500 bbl. in 1930 and 1,260,431 bbl. in 1931, declining to only 70,650 bbl. in 1939. This compared with a 1939 production of 7,180,161 bbl. from crude producers. Natural-gasoline production was 296,787 bbl. in 1939. Decline in the naphtha yield is due partly to natural falling off in production, partly to restrictions on the output of gas, and partly to the complete discontinuance of drilling operations in the naphtha area following the crude strike at Turner Valley Royalties' No. 1 in 1936.

Aims to Stabilize Storage

The avoidance of too frequent and drastic fluctuations in the Turner Valley crude allowable is being sought by the Alberta Conservation Board through cooperation with refiners and purchasers of crude. A letter issued by C. W. Dingman, deputy chairman, points out that the board was constituted to effect the conservation of oil and gas resources by the control and regulation of production, and adds:

"The board is therefore requesting that you (refiners) submit your requirements for each month and that notice of any change in requirements due to any causes unforeseen at the time of making these nominations be sent to the board as promptly as possible so that the board may have at all times as accurate information as possible so as to maintain the aboveground storage of oil at a normal position, considering the requirements, so that at all times sufficient volumes may be obtainable."

Two Home Producers

In Section 28-20-3w5, North Turner Valley, Home Oil Co.'s No. 4, LSD 9, bottoming in the Madison at 8,332 ft., is operating under a 300-bbl. temporary allowable while reacidizing and retesting.

A half mile farther north, Home's No. 3, LSD 1, Section 33-20-3w5, finished at 8,311 ft. after drilling through 623 ft. of lime. Tubing was run and systematic acidizing is being carried on in both the upper and lower porous horizons. The 623 ft. of lime in No. 3 compared with approximately 487 ft. in No. 4, and was due to the unusually steep dip of the strata. The upper porous zone showed up exceptionally well on a drill-stem test, and a large producer is expected. The Home company is planning to drill three additional North Turner Valley tests this season on acreage close to its present producers.

Tests in the Lime

In Section 8-19-2w5, West Central Turner Valley, South West Petroleum Co.'s No. 3, LSD 3, finished at 7,167 ft. after drilling through 447 ft. of Madison, gave 2,402 bbl. a day on official test through 1-in. choke. It is operating under 300-bbl. temporary allowable which will likely be increased materially when production tests are finished.

In Section 5-19-2w5, Vanpeg Royalties' No. 1, LSD 9, is finishing below 6,831 ft. and will be the next completion. It got the Madison at 6,415 ft.

In Section 13-19-3w5, Arrow's No. 1, LSD 16, is below 7,692 ft. after getting the Madison lime at 7,620 ft. Location is in a new area, about 1½ miles north of Anglo-Canadian's No. 8, the nearest producer, and 2 miles south of Argus Royalties' No. 1. Production at this point would open a new area for exploration, west and north of the main west-central production. In the same section Sun Ray Petroleum Corp. of Montreal has a test standing unfinished at 2,918 ft. in LSD 8, about a half mile south of Arrow's No. 1; and Alliance Royalties' No. 1 was spotted some time ago in LSD 9, between the two other wells.

West Flank Drilling

In Section 32-18-2w5, Royal Canadian Oil Co.'s No. 4, LSD 12, is below 5,325 ft. Pacific Petroleums' No. 4, LSD 3, is below 3,045 ft. In Section 29-18-2w5, Commoil's No. 3, LSD 13, is below 3,123 ft. after getting the Benton formation at 2,840 ft.

In Section 20-18-2w5, York Oils' No. 3, LSD 3, is below 5,907 ft. In Section 17-18-2w5, Royalite's No. 50, LSD 7, is below 4,151 ft. In Section 8-18-2w5, Northwest-Hudson's Bay Co.'s No. 3, LSD 15, is below 5,109 ft.

West Central Field

In Section 18-19-2w5, West Central field, Davies Petroleums' No. 5, LSD 10, is in the lower Benton formation below 5,582 ft. Calmont-Northeast Co.'s No. 1, LSD 3, is below 5,330 ft.

In Section 7-19-2w5, Royalite Oil Co.'s No. 48, LSD 10, is below 4,072 ft. Pacific Petroleums' No. 5, LSD 6, is resuming from 932 ft. after studying engineering and geological reports from Anglo-Canadian's No. 8 producer in the same area.

In Section 6-19-2w5, East Crest Oil Co.'s No. 5, LSD 9, is below 6,915 ft. after getting the Home sand at 6,806 ft. It is believed near the Kootenay formation, and should get the lime around 7,400 ft., somewhat higher than No. 5 in the adjacent subdivision which got the Madison at 7,562 ft. Kamalta's No. 1, LSD 1, is in the lower Benton below 5,502 ft. after getting the cardium sandstone marker at 5,330 ft.

In Section 5-19-2w5, Royalite's No. 51, LSD 13, is below 665 ft.

North Turner Valley

In Section 15-20-3w5, North Turner Valley, Anglo-Phillips' No. 1, LSD 14, is in the Blairmore formation below 6,392 ft.

In Section 27-20-3w5, Foothills Oil & Gas' No. 6, LSD 5, is below 3,472 ft. after getting the cardium sandstone at 2,800 ft.

In Section 34-20-3w5, Alberta Oil Incomes' No. 1, LSD 4, is below 5,215 ft. No. 2, LSD 4, Section 4-21-3w5, is below 3,292 ft.

In the Waite Valley area, National Petroleum Corp.'s No. 3, LSD 4, Section 25-20-4w5, is resuming from 6,939 ft. after a fishing job. The test is in the Kootenay formation, and getting close to the lime.

Tests in the Foothills

On the Brazeau structure in the northern foothills west of Edmonton, Home Oil Co.'s No. 1, LSD 16, Section 7-43-17w5, has derrick up and is rigging rotary, to resume from 6,665 ft. Test has been standing in the Blairmore after getting a gas flow, estimated 2,000,000 cu. ft., in the McDougall-Segur sand.

On the Ram River structure, road is being built to Ram River Oils' No. 2 location near Baseline Cabin, on the south side of Prairie Creek.

On the Sheppard Creek structure, in the southern foothills, Alberta Pacific Consolidated's No. 1, LSD 6, Section 7-16-12w5, is standing at 4,331 ft. owing to frozen water supply.

Moose Dome Development

Systematic development of the Moose dome structure in the foothills west of Calgary is being undertaken by Canadian Royalties, Ltd., incorporated for 50,000 no-par shares with registered office at Calgary. Officers of the company are: President, Jack McLeod; directors, M. Graves, Percy L. Sanford, W. M. Jamieson, Calgary and L. G. Stevens of Winnipeg. The company holds 520 acres on structure and will drill No. 1 test in LSD 7, Section 29-22-6w5, immediately west of Moose Oils' No. 2.

Two tests were drilled some years ago by Moose Oils, No. 1 bottoming at 2,834 ft. encountering 11 gas shows with oil at two horizons. Drilling started in the Madison lime but entered the Devonian at shallow depth. Drilling was discontinued owing to a fishing job but there is a strong wet gas flow which builds up heavy pressure when shut in. Moose's No. 2, LSD 7, Section 29-22-6w5, is standing at 1,622 ft., after getting a good show of 47.4-gravity crude. Flush production was estimated as high as 100 bbl., and fair quantities of crude secured by intermittent bailing have been shipped.

Canadian Royalties' No. 1 is working on derrick and camp, with some standard equipment on the ground. Drilling will be handled by the Valley Drilling Co. of Calgary, using gas from the Moose wells as fuel. Two producing

(Continued on Page 95)

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status
Hamilton, W. C., No. 1 Hollister, Goleta, Santa Bar.	3- 4-29	1,330	gr. sd. drlg.
T. O. Oil, No. 5 Mdivani, Mesa, Santa Barbara	28- 4-27	2,020	redrlg. 1,492
Oil Group, No. 1 Hyland, Summerland, Santa Bar.	16- 4-26	1,400	sd. sh. drlg.
Ohio Oil, No. 1 Vail, Moor Park, Ventura	10- 2-19	3,945	sd. sh. drlg.
Savage Oil, No. 8 Calumet, Shiells Canyon, Ventura	3- 3-19	4,016	pump 50 b.d.
Cont. Oil, No. 15 Grubb, San Miguelito, Ventura	24- 3-24	1,996	sd. sh. drlg.
C. C. M. Oil, No. 30-B Hobson, Rincon, Ventura	16- 3-24	4,004	sd. sh. drlg.
C. C. M. Ool, No. 9-A Hobson, Rincon, Ventura	15- 3-24	2,782	sd. sh. drlg.
Tide Water A. O., No. 43 V.L.W., Ventura Ave., Vent.	23- 3-23	9,396	hd. sh. drlg.
Tide Water A. O., No. 45 V.L.W., Ventura Ave., Vent.	24- 3-23	7,470	sd. sh. drlg.
Tide Water A. O., No. 17 McGonigle, Vent. Ave., Vent.	23- 3-23	5,862	sd. sh. drlg.
Tide Water A. O., No. 119 Lloyd, Vent. Ave., Vent.	27- 3-23	3,972	sd. sh. drlg.
Tide Water A. O., No. 122 Lloyd, Vent. Ave., Vent.	23- 3-23	9,290	sd. sh. drlg.
Tide Water A. O., No. 18 Hartman, Vent. Ave., Vent.	22- 3-23	10,885	redrlg. 9,290
Tide Water A. O., No. 21 Hartman, Vent. Ave., Vent.	22- 3-23	9,660	sd. sh. drlg.
Shell Oil, No. 112 Taylor, Ventura Ave., Ventura	29- 3-23	7,670	sd. sh. drlg.
Shell Oil, No. 113 Taylor, Ventura Ave., Ventura	29- 3-23	6,450	sd. sh. drlg.
Shell Oil, No. 115 Taylor, Ventura Ave., Ventura	29- 3-23	4,966	sd. sh. drlg.
Cal. Alliance Pet., No. 2 Hartman, Vent. Ave., Vent.	22- 3-23	8,197	sd. sh. drlg.
Lloyd Corp., No. 4 Dabney, Ventura Ave., Ventura	23- 3-23	10,135	cleaning out
Trigg, H. C., No. 1 Den, Devils Den, Kern	11-25-18	483	sd. sh. drlg.
Union Oil, No. 1 Weston, Belridge, Kern	13-29-21	3,280	sd. sh. drlg.
Belridge Oil, No. 11-1 fee, North Belridge, Kern	1-28-20	5,871	br. sh. drlg.
Belridge Oil, No. 23-1 fee, North Belridge, Kern	1-28-20	3,998	br. sh. drlg.
Belridge Oil, No. 53-26 fee, North Belridge, Kern	28-27-20	8,410	redrlg. 7,003
Texas Co., No. 1 Theta, Shale Hills, Kern	12-28-19	2,850	sd. sh. drlg.
Vanguard Oil, No. 10 Poso, Mount Poso, Kern	33-27-28	1,799	pump 125 b.d.
Davis Pet., No. 1 Kernco, Kern Front, Kern	13-28-27	1,294	bailing
Dick & Dore Oil, No. 18 Kern, Kern River, Kern	34-28-28	580	completing
Dick & Dore Oil, No. 20 Kern, Kern River, Kern	34-28-28	393	completing
Dick & Dore Oil, No. 21 Kern, Kern River, Kern	34-28-28	304	sd. sh. drlg.
Hast Oil, No. 7 Kern, Kern River, Kern	34-28-28	122	sd. sh. drlg.
Helm & Smith, No. 18 Kern, Kern River, Kern	34-28-28	688	pump 6 b.d.
El Tejon O. & R., No. 2 Douglas, Edison, Kern	32-29-29	4,283	P.B. 4,010
Mayes, A. S., No. 1 O.S.E., Edison, Kern	5-30-29	4,160	cleaning out
Goodrum & Vincent, No. 3 S.P., Edison, Kern	31-29-30	620	gr. sd. drlg.
Wood-Callahan Oil, No. 1 Heyden, Edison, Kern	21-30-29	3,060	sd. sh. drlg.
Allied Pet., No. 35 Allied, Mountain View, Kern	19-30-29	4,677	gr. sd. drlg.
Western Gulf Oil, No. 45-B, KCL, Fruitvale, Kern	22-29-27	5,280	sd. sh. drlg.
West. Gulf Oil, No. 1 Ansolabehere, Fruitvale, Kern	14-29-27	3,392	P.B. 3,050
Richfield Oil, No. 1 KCL, Fruitvale, Kern	29-29-27	5,477	sd. sh. drlg.
Union Oil, No. 4-23 Bowerbank, Goose Lake, Kern	25-29-24	12,144	dry; abd.
Standard Oil, No. 4 Mushrush, Wasco, Kern	7-27-24	3,090	sd. sh. drlg.
Continental Oil, No. 5-8-A, KCL, Wasco, Kern	8-27-24	13,180	sd. sh. drlg.
Continental Oil, No. 1 Meyer, Wasco, Kern	7-27-24	11,640	sd. sh. drlg.
Continental Oil, No. 1 Community, Shafter, Kern	12-28-24	10,096	sd. sh. drlg.
Union Oil, No. 21-34, KCL, Rio Bravo, Kern	34-28-25	11,470	flow 1,192 b.d.
Union Oil, No. 56-27, KCL, Rio Bravo, Kern	27-28-25	9,884	sd. sh. drlg.
Superior Oil, No. 1 Rudnick, Rio Bravo, Kern	28-28-25	11,285	O.S. drlg.
Superior Oil, No. 1 Roe, Rio Bravo, Kern	27-28-25	11,385	flow 1,645 b.d.
Standard Oil, No. 11-23, KCL, Greeley, Kern	18-29-26	10,080	sd. sh. drlg.
Standard Oil, No. 12-7, KCL, Greeley, Kern	7-29-26	11,005	hd. sh. drlg.
Standard Oil, No. 12-8, KCL, Greeley, Kern	7-29-26	6,942	redrlg. 6,290
General Pet., No. 1 Farrand, Greeley, Kern	12-29-26	11,567	will P.B.
General Pet., No. 1 Oughton, Greeley, Kern	12-29-25	1,535	sd. sh. drlg.
Superior Oil, No. 1 Scofield, Greeley, Kern	12-29-25	11,500	completing
Shell Oil, No. 34-28-B, KCL, Ten Section, Kern	28-30-26	5,596	sd. sh. drlg.
Shell Oil, No. 8-21-B, KCL, Ten Section, Kern	21-30-26	8,220	flow 1,687 b.d.
Tide Water-Cont., No. 26-7-E, KCL, Strand, Kern	7-30-26	8,287	sd. sh. drlg.
Shell-Ohio, No. 64-12-A, KCL, Strand, Kern	12-30-25	8,570	sdtrkg. 8,510
Ohio Oil, No. 18-E, KCL, Canal, Kern	13-30-25	3,684	sd. sh. drlg.
Shell Oil, No. 85-15-A, KCL, Canal, Kern	15-30-25	7,748	sd. sh. drlg.
Richfield Oil, No. 74-32-A, KCL, Tupman, Kern	32-30-25	7,471	sd. sh. drlg.
Richfield Oil, No. 72-33-B, KCL, Tupman, Kern	33-30-25	8,900	sd. sh. drlg.
Richfield Oil, No. 76-29-A, KCL, Tupman, Kern	29-30-25	8,517	repair csg.
Richfield Oil, No. 78-29-A, KCL, Tupman, Kern	29-30-25	2,142	sd. sh. drlg.
Richfield Oil, No. 12-3-C, KCL, Cole's Levee, Kern	3-31-25	8,840	fish D.P.
Shell Oil, No. 81-17-B, KCL, Cole's Levee, Kern	17-31-25	9,890	hd. sh. drlg.
Standard Oil, No. 20-2, KCL, Cole's Levee, Kern	9-31-25	9,324	P.B. 9,190
Ohio Oil, No. 7-F, KCL, Cole's Levee, Kern	3-31-25	9,490	completing
Tide Water A. O., No. 65, KCL, Cole's Levee, Kern	13-31-25	11,080	hd. sh. drlg.
Tide Water A. O., No. 72, KCL, Cole's Levee, Kern	14-31-25	8,653	hd. sh. drlg.
Richfield Oil, No. 1 Slough, South Ten Sec., Kern	6-31-26	10,150	gr. sd. drlg.
Foster, Robert, No. 1 Hollingsworth, Mdw-Sun. Kern	22-32-23	1,010	sd. sh. drlg.
Merritt-Annex Oil, No. 1-34, MA., Mdwy-Sun., Kern	34-32-24	2,625	idle
General Pet., No. 1 B.V.A., Midway-Sunset, Kern	1-32-24	11,446	hd. sh. drlg.
Signal Oil & Gas, No. 7 Kendon, Mdwy-Sun., Kern	35-32-23	1,832	sd. sh. drlg.
Shell Oil, No. 45-9 B.V.A., Mdwy-Sunset, Kern	9-32-25	10,490	sd. sh. drlg.
National Oil, No. 35 Sunset, Midway-Sunset, Kern	35-32-23	1,588	P.B. 1,536
National Oil, No. 36 Sunset, Midway-Sunset, Kern	35-32-23	997	sd. sh. drlg.
Texas Co., No. 38 Midway, Midway-Sunset, Kern	32-32-24	3,193	sd. sh. drlg.
Ohio Oil, No. 43-3-B, KCL, Paloma, Kern	3-32-26	10,170	O.S. drlg.
Western Gulf-Texas, No. 74-3-A, KCL, Paloma, Kern	3-32-26	10,694	O.S. drlg.
Shell Oil, No. 52-2-13-A, KCL, San Emidio, Kern	13-11-22	13,790	hd. sh. drlg.
Burrhus, V. E., No. 1 Haberkern, Elkhorn, Kern	21-32-22	2,360	br. sh. drlg.
Oil Scout, No. 1 Tejon, Comanche Point, Kern	27-32-29	1,030	sd. sh. drlg.
Jergins Trust, No. 1 Cheney, Panoche Creek, Fresno	29-14-13	6,780	sd. sh. drlg.
Texas Co., No. 1 S.P., Turk anticline, Fresno	23-17-15	8,598	br. sh. drlg.
Standard Oil, No. 51-19-B fee, N.E. Coalinga, Fresno	19-19-16	8,209	flow 1,272 b.d.
Standard Oil, No. 62-19-B fee, N.E. Coalinga, Fresno	19-19-16	8,330	completing
Standard Oil, No. 71-19-B fee, N.E. Coalinga, Fresno	19-19-16	7,380	sd. sh. drlg.
Union Oil, No. 68-18 Cook, N.E. Coalinga, Fresno	18-19-16	7,460	sd. sh. drlg.
Union Oil, No. 88-18 Cook, N.E. Coalinga, Fresno	18-19-16	8,222	flow 1,615 b.d.
Amerada Pet., No. 28-17 S.P.L., N.E. Coalinga, Fresno	17-19-16	6,998	hd. sh. drlg.
Bandini Pet., No. 46-18-B, N.E. Coalinga, Fresno	18-19-16	9,614	O.S. drlg.
Superior Oil, No. 3 Husong, N.E. Coalinga, Fresno	18-19-16	8,115	O.S. drlg.
Bandini Pet., No. 51-30-B, Central Coalinga, Fresno	30-19-16	8,294	completing
Lytle, R. S., agent, No. 86-12-C, S.E. Coalinga, Fresno	12-20-15	4,581	sd. sh. drlg.
Lytle, R. S., agent, No. 51-7-F, S.E. Coalinga, Fresno	7-20-16	5,594	sd. sh. drlg.
Lytle, R. S., agent, No. 24-18-F, S.E. Coalinga, Fresno	18-20-16	6,980	sd. sh. drlg.
Univ. Cons'd. Oil, No. 61-24-C, S.E. Coalinga, Fresno	24-20-15	6,972	hd. sh. drlg.
Texas Co., No. 2 Anderson, S.E. Coalinga, Fresno	6-20-16	7,740	sd. sh. drlg.
Standard Oil, No. 77-13-C fee, S.E. Coalinga, Fresno	13-20-15	6,782	br. sh. drlg.
Standard Oil, No. 22-19-F fee, S.E. Coalinga, Fresno	19-20-16	3,887	sd. sh. drlg.
Standard Oil, No. 42-19-F fee, S.E. Coalinga, Fresno	19-20-16	8,540	O.S. drlg.
Superior Oil, No. 2-B Cagle, S.E. Coalinga, Fresno	6-20-16	2,896	sd. sh. drlg.
Superior Oil, No. 4 Cagle, S.E. Coalinga, Fresno	6-20-16	7,877	flow 1,430 b.d.
Texas Co., No. 1 Boston, Westhaven, Fresno	14-20-18	8,080	sd. sh. drlg.
K. N. D. A., No. 27-18-J, Kettleman N. Dome, Fresno	18-21-17	10,450	hd. sd. drlg.
K. N. D. A., No. 334-18-J, Kettleman N. Dome, Fresno	18-21-17	9,890	hd. sd. drlg.
K. N. D. A., No. 25-16-Q, Kettleman N. Dome, Fresno	16-22-18	7,751	hd. sd. drlg.
K. N. D. A., No. 34-22-Q, Kettleman N. Dome, Kings	22-22-18	5,972	hd. sh. drlg.
K. N. D. A., No. 6-26-Q, Kettleman N. Dome, Kings	26-22-18	7,559	sd. sh. drlg.
K. N. D. A., No. 38-26-Q, Kettleman N. Dome, Kings	26-22-18	8,220	hd. sd. drlg.
Standard Oil, No. 72-19-J, Kettleman N. Dome, Fresno	19-21-17	10,903	redrlg. 10,851
Standard Oil, No. 321-29-J, Kettle. N. Dome, Fresno	29-21-17	6,270	sd. sh. drlg.
Standard Oil, No. 57-3-P, Kettleman N. Dome, Kings	3-22-17	7,270	br. sh. drlg.
Standard Oil, No. 61-17-Q, Kettleman N. Dome, Kings	17-22-18	8,485	completing
Standard Oil, No. 72-17-Q, Kettleman N. Dome, Kings	17-22-18	8,796	sd. sh. drlg.
Standard Oil, No. 41-27-Q, Kettleman N. Dome, Kings	27-22-18	5,997	sd. sh. drlg.
Standard Oil, No. 63-27-Q, Kettleman N. Dome, Kings	27-22-18	5,597	sd. sh. drlg.
Standard Oil, No. 72-27-Q, Kettleman N. Dome, Kings	27-22-18	6,304	br. sh. drlg.
Standard Oil, No. 83-27-Q, Kettleman N. Dome, Kings	27-22-18	7,485	sd. sh. drlg.
Standard Oil, No. 85-27-Q, Kettleman N. Dome, Kings	27-22-18	6,474	br. sh. drlg.
Standard Oil, No. 41-35-Q, Kettleman N. Dome, Kings	35-22-18	6,082	sd. sh. drlg.
Standard Oil, No. 63-35-Q, Kettleman N. Dome, Kings	35-22-18	8,470	completing
Shell Oil, No. 1 Cohn, Tulare Lake, Kings	4-22-19	10,035	fish D.P.
Collins, J. F., No. 1 Konda, Richgrove, Tulare	25-24-27	1,633	sd. sh. drlg.
Buttes Oilfields, No. 6 Buttes, Marysville, Sutter	1-15- 1	7,070	will P.B.
Richfield Oil, No. 2 Hill, Potrero, Solano	5- 4- 1	2,294	sd. sh. drlg.
Tassajara Oil, No. 1 Rassmussen, Tass,. Contra Costa	9- 2- 1	8,800	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status
Union Oil, No. 33 Callender, Dominguez, L. A.	29- 3-13	6,590	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill-stem test.
D.P., drill pipe.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe-line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracked.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel-line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas, and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting on orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig
Wtr., water.

Union Oil, No. 75 Callender, Dominguez, L. A.	29-	3-13	6,451	sd. sh. drlg.
Havenstrite, R. E., No. 2 Larronde, Dominguez, L. A.	32-	3-13	6,196	sd. sh. drlg.
Morton & Elder, No. 2 Dominguez, Domin., L. A.	32-	3-13	7,426	P.B. 7,200
Pongratz Pet., No. 1 Grant, Dominguez, L. A.	29-	3-13	7,536	gr. sd. drlg.
Apex. Pet., No. 1 Hatfield, Rosecrans, L. A.	20-	3-13	9,002	recmtd. 9,000
St. Anthony Oil, No. 1 Gordon, Rosecrans, L. A.	19-	3-13	7,700	O.S. drlg.
Union Oil, No. No. 38 Rosecrans, Rosecrans, L. A.	19-	3-13	7,191	sd. sh. drlg.
Union Oil, No. 39 Rosecrans, Rosecrans, L. A.	19-	3-13	4,588	sd. sh. drlg.
Royalty Service, No. 1 Grant, Rosecrans, L. A.	20-	3-13	8,820	hd. sd. drlg.
El Rey Oil, No. 1 Westmore, Athens, Los Angeles	2-	3-14	7,599	sd. sh. drlg.
Dominguez Estates, No. 1 fee, Torrance, L. A.	2-	4-14	6,690	sd. sh. drlg.
Casa Grande Oil, No. 1 Lopez, San Fernando, L. A.	1-	2-15	2,320	bail mud
Tide Water A. O., No. 12 Porter, Aliso Canyon, L. A.	27-	3-16	8,207	sd. sh. drlg.
Tide Water A. O., No. 13 Porter, Aliso Canyon, L. A.	27-	3-16	1,302	sd. sh. drlg.
Continental Oil, No. 1 Howell, Aliso Canyon, L. A.	2-	2-16	3,350	sd. sh. drlg.
Tamas Oil, No. 1 Perkins, Newhall, Los Angeles	14-	3-16	3,900	cleaning out
Consolidated Pet., No. 4 Needham, Newhall, L. A.	13-	3-16	4,401	sd. sh. drlg.
Barnsdall Oil, No. 2 R.S.F., Newhall, Los Angeles	27-	4-17	7,045	flow 685 b.d.
Barnsdall Oil, No. 9 R.S.F., Newhall, Los Angeles	27-	4-17	4,853	sd. sh. drlg.
Vesta Pet., No. 1 Palos Verdes, Torrance, L. A.	31-	4-13	3,800	sd. sh. drlg.
General Pet., No. 102 P.E., Wilmington, L. A.	35-	4-13	3,410	flow 120 b.d.
Ace Oil, No. 1 Harbor, Wilmington, Los Angeles	35-	4-13	3,560	flow 111 b.d.
Continental Corp., No. 4 L.A.C.F.C., Wilmington, L. A.	2-	5-13	2,691	sd. sh. drlg.
Hancock Oil, No. 15-A Harbor, Wilmington, L. A.	35-	4-13	2,385	sd. sh. drlg.
Hancock Oil, No. 26-B Harbor, Wilmington, L. A.	35-	4-13	2,540	sd. sh. drlg.
Hansen Oil, No. 1 Harbor, Wilmington, L. A.	2-	5-13	3,045	pump 81 b.d.
L. A. Basin Oil, No. 8 Kupfer, Wilmington, L. A.	35-	4-13	2,960	sd. sh. drlg.
Long Beach Dev., No. 10-W-X Harbor, Wilm., L. A.	3-	5-13	2,450	sd. sh. drlg.
Long Beach Dev., No. 8-Z Harbor, Wilm., L. A.	2-	5-13	2,491	sd. sh. drlg.
Padreson Oil, No. 1-C Harbor, Wilmington, L. A.	33-	4-13	3,565	completing
Union Pacific R. R., No. 128, Wilmington, L. A.	3-	5-13	3,950	P.B. 3,840
Union Pacific R. R., No. 131, Wilmington, L. A.	3-	5-13	4,317	sd. sh. drlg.
Union Pacific R. R., No. 132, Wilmington, L. A.	4-	5-13	2,880	sd. sh. drlg.
Union Pacific R. R., No. 133, Wilmington, L. A.	3-	5-13	2,592	sd. sh. drlg.
Union Pacific R. R., No. 135, Wilmington, L. A.	3-	5-13	1,984	sd. sh. drlg.
Union Pacific R. R., No. 22-E, Wilmington, L. A.	3-	5-13	2,550	sd. sh. drlg.
Union Pacific R. R., No. 7-C, Wilmington, L. A.	33-	4-13	5,554	flow 146 b.d.
Union Pacific R. R., No. 4-P.D., Wilmington, L. A.	3-	5-13	2,605	sd. sh. drlg.
West. Annex Oil, No. 1 Shaffner, Wilmington, L. A.	35-	4-13	3,460	completing
West Whittier Oil, No. 1 Pellissier, Whittier, L. A.	17-	2-11	4,430	rig to pump
Kern Oil, No. 34 Monterey, Montebello, L. A.	2-	2-12	5,050	sd. sh. drlg.
Kern Oil, No. 38 Monterey, Montebello, L. A.	2-	2-12	6,794	sd. sh. drlg.
Union Oil, No. 9 Howard & Smith, Montebello, L. A.	11-	2-12	7,645	sd. sh. drlg.
Bush Oil, No. 2 Mihifred, Montebello, Los Angeles	3-	2-12	6,790	sd. sh. drlg.
Caminol Co., No. 4-20 Cowan, Montebello, L. A.	3-	2-12	7,630	flow 440 b.d.
C. A. P. Oil, No. 1 Dutch, Montebello, Los Angeles	11-	2-12	7,657	redrlg. 7,530
Columbia Oil, No. 1 Scheinik, Montebello, L. A.	3-	2-12	7,656	completing
Franru Oil, No. 1 Condaffer, Montebello, L. A.	11-	2-12	7,618	O.S. drlg.
Getty-Pac. West., No. 1 Pfister, Montebello, L. A.	10-	2-12	6,897	sd. sh. drlg.
Herley-Kelly, No. 3 Burke, Montebello, L. A.	2-	2-12	7,060	sd. sh. drlg.
Mabee Co., No. 6 Mulholland, Montebello, L. A.	2-	2-12	7,137	sd. sh. drlg.
Mabee Co., No. 39 Monterey, Montebello, L. A.	2-	2-12	6,472	sd. sh. drlg.
Shoreline Drlg., No. 1 Mont., Montebello, L. A.	11-	2-12	7,591	flow 580 b.d.
Texas Co., No. 2 Wilcox, Montebello, Los Angeles	3-	2-12	7,767	O.S. drlg.
Winlock Oil, No. 1 Win, Montebello, Los Angeles	11-	2-12	7,590	swabbing
Allied Pet., No. 34 Signal, Long Beach, Los Angeles	30-	4-12	10,001	sd. sh. drlg.
Sunset Oil, No. 1 Kirkpatrick, Long Beach, L. A.	19-	4-12	3,160	pump 50 b.d.
Caminol Co., No. 3-19 Dominguez, Long Beach, L. A.	11-	4-13	7,674	P.B. 7,620
Texas Co., No. 10-A Davidson, Long Beach, L. A.	19-	4-12	3,596	sd. sh. drlg.
Worland, C. C., No. 1 Oates, Castaic, Los Angeles	18-	5-16	2,251	will abdn.
Great Northern Oil, No. 1 Oak, Richfield, Orange	28-	3- 9	3,315	cleaning out
Welco Oil, No. 1 Yorba, Richfield, Orange	33-	3- 9	4,780	sd. sh. drlg.
Mojave Pet., No. 1 Tuffree, Yorba Linda, Orange	21-	3- 9	2,490	sd. sh. drlg.
Morgan, George, No. 1 Fricke, Yorba Linda, Orange	21-	3- 9	2,150	flow 90 b.d.
Fullerton Oil, No. 25 Brea, Brea Canyon, Orange	2-	3-10	2,741	sd. sh. drlg.
Southwest Expl., No. 25 State, Hunt. Beach, Orange	10-	6-11	3,807	sd. sh. drlg.
H. R. O. Oil, No. 1 Huntington, Hunt. Beach, Orange	11-	6-11	4,486	sd. sh. drlg.
Pacific American Oil, No. 6 Book, Hunt. Bch., Orange	36-	5-11	3,873	tested wet
South Basin Oil, No. 93 H.B., Hunt. Beach, Orange	2-	6-11	7,590	P.B. 5,400
Thompson, M. N., No. 1 Smith, Costa Mesa, Orange	9-	6-10	4,897	sd. sh. drlg.

OKLAHOMA

Week Ended March 2

NORTHERN OKLAHOMA

Caddo County

Sinclair Prairie Oil Co.'s No. 1 Groman, SW NW NW Sec. 1-16-13w. Wlx. 9,179 ft.; D.S.T. 9,294 ft.; open 1 hr. and rec. 180 ft. mud; no gas or oil; drlg. sh. 9,555 ft.

Comanche County

Mid Night Oil's No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; dpnd. to 998 ft.; acd. and swbd. wtr. and S.S.O.; S.D.

Creek County

Bryan Pet. Co.'s No. 1 Ah-Say, NE NW NE Sec. 34-14-7. Drlg. 1,280 ft.

Zephyr Drlg. Co.'s No. 1 Brown, NE SE SE Sec. 19-16-10. T.D. 2,889 ft., in Dutcher; wtr. at 2,864 ft.; D.&A.

Dewey County

Magnolia Pet. Co.'s No. 1 Fiekes, C SW SW Sec. 31-18-14w. T.D. 7,705 ft.; S.G.

Garfield County

Fain Drlg.'s No. 1 Schnakenburg, NE SE SW Sec. 31-21-4w. Sat. 5,805 ft.; drlg. 6,280 ft.

Garvin County

Travis Sanders' No. 1 Buckner, NW NW SW Sec. 27-1-2w. Drlg. 1,110 ft.

Grant County

Continental Oil Co.'s No. 1 Krichmar SE SE NE Sec. 28-28-5w. Drlg. 3,442 ft.

Hughes County

Hall & Jordan's No. 1-A Barker, SE SE SW Sec. 3-8-9. Drlg. 1,595 ft.

Walker & Johnson's No. 1 Rogers, NE NE NE Sec. 24-7-9. S.S.O. 565-85 ft.; drlg. plug; to test.

Kay County

Malarnee Oil Co.'s No. 1 Harris, C SW NE Sec. 14-25-1. Est. F. 40 B.O. in 24 hrs.; drlg. 3,850 ft.

Kingfisher County

Phillips Pet. Co.'s No. 1 Drape, C NW SE Sec. 30-18-5w. S.D. 1,456 ft.

Kiowa County

Frank Dillard et al's No. 1 Hobbs, SE SE NW Sec. 35-6-17w. Set 6⅝-in. 525 ft.; T.D. 690 ft.

Lincoln County

Harper & Turner's No. 1 Mann, NW NW SE Sec. 23-14-5. Drlg. 3,825 ft.

R. M. Purcell et al's No. 1 Wolcott, NW NW NW Sec. 2-13-4e. R.O.G.

Geo. Travis et al's No. 1 Teter, NW NW SW Sec. 24-17-2. Hntn. 4,515-20 ft., S.O.; cg. in Wlx. 4,771 ft.; ran Schlum.; D.&A.

Youngblood et al's No. 1 Wright, NE NE SE Sec. 32-16-6. Misenr. 3,929 ft.; Htn. 3,934 ft.; Vla. 4,017 ft.; Wlx. 4,172-79 ft., T.D.; P.B. to test Mayes L.

Logan County

Helmerich & Payne's No. 1 McMahon, SW SW SE Sec. 31-17-1. Hntn. 4,983 ft.; Vla. 5,175 ft.; Wlx. 5,272 ft.; N.S.; drlg. ahd.

McIntosh County

Acme Drlg. Co.'s No. 1 Reynolds, NE NE SW Sec. 22-11-14. Drlg. 845 ft.

Phillips' No. 1 Blankenship, C SW NW Sec. 37-10-13. T.D. 2,910 ft.; U.R. 8-in.

Muskogee County

R. Garrett's No. 1 Escoe, SW SW SE Sec. 16-13-17. Drlg. 1,530 ft.

Payne County

Gardner Pet. Co.'s No. 1 Wetsel, NE SW SE Sec. 2-18-1e. Misnr. 4,878 ft.; Wlx. 5,049 ft., T.D.; perf. 4,865-81 ft.; D. &A.

Helmerich & Payne's No. 1 Kramer, NW NW SE Sec. 24-17-1e. Drlg. 4,480 ft.

Pontotoc County

Crescent Oil Co.'s No. 2 Thompson, NE NW SW Sec. 29-3-4. T.D. 460 ft.; S.D.

Starr O. & G. Co.'s No. 1 Bowlby, SW SW NW Sec. 29-5-4. Vla. 2,501 ft.; Simp. 2,795 ft.; Wlx. 2,903 ft.; T.D. 2,908 ft.; D.&A.

Pottawatomie County

Alma Oil Co.'s No. 1 Lyday, SE NE SW Sec. 30-6-5. T.D. 3,979 ft.; Schlumbg. showed oil in Earlsboro; perf. 2,730-35 ft., mud; S.D.

Seminole County

Tom Nix' No. 2 Warren, C E½ NE SE SE Sec. 4-6-8. Drlg. 864 ft.

Stanolind O. & G. Co.'s No. 1 Aldridge, NW NE SE Sec. 32-9-8. Drlg. 4,060 ft.

Washita County

Continental Oil Co.'s No. 1 School ld., C NE¼ Sec. 16-8-16w. Rig.

SOUTHERN OKLAHOMA

Atoka County

Brookshire et al's No. 1 Jones, C SW NW Sec. 29-3s-12. T.D. 2,045 ft.; lost bit; may test Mayes at 1,945 ft.

Carter County

W. F. Turner's No. 1 Smith, NE SW SE Sec. 16-3s-1w. S.D. 3,640 ft.

Choctaw County

Clyde Ross et al's No. 1 Hardy, SE SE NW Sec. 21-7s-15. Drlg. 1,893 ft.

Jackson County

Jones & Robinson's No. 1 Neal, SW SW SW Sec. 8-1s-20w. Rig.

Jefferson County

Fred Land et al's No. 1 Barrett, NE SE SE Sec. 14-6s-6w. Sd. 1,852 ft., S.O.; D. P. stk. at 1,100 ft.; T.D. 1,890 ft.; S.D.

Marshall County

Johnson et al's No. 1 Godfrey, SW SE NE Sec. 14-8s-6e. Vla. 2,627 ft.; S.S.O.; T.D. 4,455 ft. in sd.; S.O.; S.D.

May Oil Corp.'s No. 1 Sacrea, SW NE SW Sec. 17-5-5. S.D. 863 ft.

Pure Oil's No. 1 Little, W½ NE SE Sec. 28-5s-7e. Drlg. 4,595 ft.

Murray County

C. P. Williams' No. 1 fee, NE NE SE Sec. 22-1n-4. Drlg. 509 ft.

KANSAS

Week Ended March 2 (Descriptions are East unless marked otherwise)

Barton County

Phillips' No. 1 Wondra, CWL SW NE Sec. 15-17-12w. Lans. 3,049 ft.; 700 ft. O.I.H., 10 hrs.; congl. 3,292 ft.; Arb. 3,316 ft.; S.O.&W. 3,318-20 ft.; H.F.W. 3,325 ft., T.D.; P.B. to 3,054 ft.; drld. emt. to 3,090 ft.; 450 ft. O.I.H.

Butler County

Atlantic and Sinclair's No. 1 Smith, SE SE NW Sec. 33-33-4. Drlg. 2,108 ft.

Natl. Ref. Co.'s No. 1 Smith, NE NW SE Sec. 9-28-5. Miss. 2,740 ft.; Msnr. 3,160 ft.; Arb. 3,198 ft.; T.D. 3,213 ft.; D.&A.

Cowley County

Atlantic and Sinclair's No. 1 Smith, SE SE NW Sec. 33-33-4. Tpka. 1,365 ft.; drlg. 1,582 ft.

Markey & Talbot's No. 1 Anderson, C N½ NE NW Sec. 21-30-3. S.D. 2,240 ft.

Markey & Mission's No. 1-A Hunt, SW SW NE Sec. 16-34-5. Drlg. 1,215 ft.

Ellsworth County

Lauck & Moncrief's No. 1 Ehler, CWL SW NW Sec. 35-16-10w. Lans. 2,943 ft.; Arb. 3,295-97 ft.; R.U.S.T. 3,297 ft.; sat. 3,316 ft.; 550 ft. O.I.H.; T.D. 3,318 ft.

Gove County

Cities Service's No. 1 Victory, CWL NW¼ Sec. 36-13-30w. T.D. 5,166 ft.; lost circ.

Greenwood County

A. A. Hinze et al's No. 1 Hester, NW SW NE Sec. 1-22-12. S.D. 510 ft.

Marylyn Oil's No. 1 Burke, NE NE SW Sec. 27-24-11. S.D. 815 ft.

Rex & Morris' No. 1-A Wright, C N½ Lot 16, Sec. 30-28-8. Drlg. 2,883 ft.

C. L. Sheedy et al's No. 1 Hook, NW SW NW Sec. 4-22-10. Drlg. 2,100 ft.

Jefferson County

McLaughlin Sons, Inc.'s No. 1 McLaughlin, SW NE NW Sec. 4-10-20. T.D. 1 915 ft.; whpstk. 1,858 ft.; P.B. 1,550 ft.; W.O.C.

Johnson County

Thurow et al's No. 1 Green, C SW¼ Sec. 25-14-22e. Burg. 1,038 ft.; S.S.O.; base Miss. 1,473 ft.; drlg. 1,675 ft.

McPherson County

Aladdin Pet. Co.'s No. 1 Bitikofer, CNL NE NW Sec. 1-20-1w. Cellar.

Marion County

Harrington & Lorieaux's No. 1 Belton SE SE NE Sec. 30-17-4. Drlg. 980 ft.

Polhamus et al's No. 1 Noone, NW NW SE Sec. 18-18-3. T.D. 2,907 ft.; D.&A.

H. H. Royer's No. 1 Kroch, NE NE NW Sec. 28-18-4. Drlg. 1,345 ft.

Reno County

Dutton et al's No. 1 Green, SE SE SE Sec. 8-23-4w. W.O.C. 214 ft.

Shell's No. 1 Frazee, NE SE NE Sec. 33-25-8w. Lans. 3,220 ft.; Miss. 3,803 ft.; Vla. 4,125 ft.; Arb. 4,240-80 ft., T.D.; ran Schlmb.; D.&A.

Rice County

Mid-Plains Oil Co.'s No. 1 Newkirk, CSL SW SW Sec. 14-18-7w. Misnr. 3,244 ft.; S.O.; Vla. 3,375 ft.; drlg. 3,402 ft.

Pryor & Lockhart's No. 1 Southern, C N½ NE NE Sec. 14-19-10w. Lans. 2,933 ft.; C.O.

Rooks County

Seaney & Ciampitt's No. 1 Morrison, CSL SW NE Sec. 32-10-17w. Loc.

Russell County

I. W. Murfin et al's No. 1 St. Aubyan, CSL SW SE Sec. 1-15-15w. Tpka. 2,710 ft.; Lans. 3,000 ft.; drlg. 3,077 ft.

Webb & Wakefield's No. 1 Schmidtberger, CNL NE SW Sec. 17-13-15w. Lans. 3,048 ft.; S.S.O.&W. 3,079-83 ft.; Arb. 3,308-12 ft.; S.O.; T.D. 3,353 ft.; tstd. 3 gal. O.P.H.; D.&A.

Sedgwick County

G. A. Fuller's No. 1 Stilt, CSL SE NE Sec. 21-27-1w. Drlg. 2,045 ft.

Sunray Oil Co.'s No. 1-A McMillan, CWL NW NW Sec. 14-29-2w. Miss. 3,564 ft.; some sat.

Stafford County

A. M. Landon et al's No. 1 Coen, SE SE SE Sec. 15-23-14w. Drlg. 3,406 ft.

MISSOURI

Adair County

Ettington et al's No. 1-A Clark, NE NE SE Sec. 8-63-14w. Drlg. 425 ft.

DeKalb County

American O. & G. Co.'s No. 1 Thompson, C SW SW Sec. 30-58-31w. Cellar.

Holt County

Brin & Nathan's No. 1 Decker, C NW NW Sec. 1-61-38w. T.D. 1,030 ft.; S.D. for csg.

Livingston County

Chillicothe Synd.'s No. 1 Linton, C W½ SE Sec. 15-56-23w. M.I.M.

Macon County

Ray Dorris Drlg. Co.'s No. 1 Jones, NE NW NW Sec. 16-58-17w. M.I. mch.

Schuyler County

T. E. Baldwin's No. 1-A Johnson, NW NE NE Sec. 21-65-15w. T.D. 1,069 ft.; P.B. 1,040 ft.; drlg. 1,116 ft.

ARIZONA

Cochise County

Funk Benevolent Corp.'s No. 1 fee, SE NE Sec. 27-13s-30e. Fsg. 6,668 ft.; S.S.G. &O.

Maricopa County

Sam F. Reaves' No. 1 King, SW SE Sec. 33-1n-4w. T.D. 1,704 ft.

Peoples O. & G. Co. No. 1 Gardner, SE¼ Sec. 2-1n-3e. Set 10-in. 1,140 ft.; U.R.

Pima County

R. W. Schenck's No. 1 Boyce, Sec. 22-19s-17e. S.D. 350 ft.

Yavapai County

Ari-Copa Drlg. & Mining Co.'s No. 1 Puntenney, SW¼ Sec. 27-18n-2w. S.D. 460 ft.

Chino Valley Oil Dev. Co.'s No. 1 State, Sec. 20-18n-2w. T.D. 1,140 ft.

Yuma County

Chas. T. Lark, Sec. 7-7s-14w. Loc.

Yuma Valley O. & G. Co. No. 1 Musgrove, N½ SW NW NE Sec. 11-11s-25w. Cd. 3,320-30 ft.; good S.O.&G.; S.D. 4,000 ft.

IOWA

Union County

Phillips Pet. Co.'s No. 1 Creston, C SE

NE Sec. 31-71-30w. Wtr. 1,870 ft.; drlg. below 1,925 ft.

NEBRASKA

Cass County

Golden Rod Oil Co. No. 1 Sparer, SE SE SE Sec. 8-11-13e. S.D. 1,205 ft. in Vla. L.

Dakota County

Peder Skriver's No. 1 Armour, NE NE NE Sec. 33-28-8. T.D. 1,100 ft.; S.D.

Dawes County

G. E. Mitchell's No. 1 Palmer, NW NW SW Sec. 1-33-50w. (O.W.D.D.); O.T.D. 2,964 ft.; R.U. to D.D.

Fillmore County

Dan Kornfeld's No. 1 Mathis, NE NE NE Sec. 22-5-1w. S.D. 2,003 ft.

Keith County

California-Nebraska Oil, Ltd.'s No. 1 Guststuehm, NW NW NW Sec. 21-14-37w. Dak. 2,772 ft.; S.O. 2,895-2,901 ft.; cd. 3,258-81 ft.; S.S.O.; S.D. 3,300 ft.

Pawnee County

Blaser & Hoerman's No. 1 Wilson, NE NW NW Sec. 4-1-10. S.S.O. 470-71 ft., drlg. 476 ft.

Richardson County

Pawnee Royalty's No. 1 Boice, CSL N½ NE NE Sec. 18-1-16e. Hntn. 2,276 ft.; dpnd. to 2,292 ft.; P.&F. 78 B.O. and 403 B.W.; S.I.; stor.

Pawnee Royalty's No. 1 Myers, C NW NW Sec. 24-1-1e. Vla. 3,183-86 ft.; S.O.; Arb. 3,580 ft.; drlg. 3,680 ft.

Stephens & Uhri's No. 1-A Ogle, NW SE SE Sec. 9-1-14. Rotary tools on ground.

Stephens & Uhri's No. 1 Stauffer, SW SW NE Sec. 21-1n-13e. S.D. 475 ft.

Scotts Bluff County

Albert Wood et al's No. 1 McHenry, SE NE NE Sec. 33-23-57w. T.D. 625 ft.; S.D.

J. A. Fairy Pet.'s No. 1 McCulley, C SE SE Sec. 35-23-58w. S.D. 2,035 ft.

ARKANSAS

Clark County

J. H. Coker and J. P. Grieves' No. 1 C. McClellan, 330 ft. NW cor. NW SE Sec. 11-20-21. R.U.

W. S. King's No. 1 N. Ross, 640 ft. S. 359 ft. W, NE cor. S½ SW Sec. 3-10-21. Drlg. rd. sh. 1,845 ft.

Columbia County

Atlantic Ref. Co.'s No. 1 Gunnels, 182 ft. N, C SW SW Sec. 19-17-19. Drlg. rd.&gr. sh. 4,980 ft.

Hassie Hunt's No. 2 McWilliams, NE NE Sec. 16-18-19. 9⅝-in. csg. 2,109 ft.; set 5½-in. csg. 8,250 ft.; would not flow; rkd. with gas and attempted acd.; would not take acd.

McAlester Fuel Oil Co.'s No. 1 H. Sayers, unit, C NE NW Sec. 15-18-22. Set 9⅝-in. csg. 4,060 ft.; drlg. ahd.

J. K. Mahoney's No. 2 E. Riley, C NE NE Sec. 14-18-19. Drlg. rd. sdy. sh. 8,-142 ft.

Mid-Continent Pet. Corp. et al's No. 1 R. S. Foster, 100 ft. N, C SE SW Sec. 24-17-20. Drlg. 207 ft.

Normandie Oil Corp.'s No. 1 D. R. Booth, C N½ NE NW and N½ NW NE Sec. 25-17-20. M.I.M.

Oliphant Oil Co.'s No. 1 Rowe, 460 ft. N. 660 ft. E, SW cor. Sec. 16-17-20. T. Sur. L. 7,629 ft.; rng. csg. 7,668 ft.

Placid Oil Co.'s No. 2 J. W. Boothe unit, C NW SW Sec. 20-17-19. T.D. 7,585 ft.; rng. csg.

Standard Oil Co. of La.'s No. 1 A. W. Gunnels et al, C SW NW Sec. 20-17-19. Set 9⅝-in. csg. 2,181 ft.; drlg. 6,-973 ft.

Tide Water Asso. Oil Co. and Seaboard Oil Corp.'s No. 1 W. T. Beene, C NE NW Sec. 14-18-19. Pits.

Tide Water Asso. Oil Co. and Seaboard Oil Corp.'s No. 2 J. T. Beene, C NE NW Sec. 15-18-19. Set 13⅜-in. csg. 132 ft.; drlg. rd.&gr. sh. 5,457 ft.

Tide Water-Seaboard Oil Co.'s No. 1 W. Mack, C SW NE Sec. 16-18-19. Fsg. 7,-631 ft.

G. H. Vaughn's No. 1-D J. Jones, 495 ft. S. 660 ft. W NE cor. NE SE Sec. 21-17-20; T.D. 7,634 ft.; set 6-in. csg. 7,-634 ft.; flwg. in tanks; no ga.

Craighead County

Tennark, Inc., No. 1 R. M. Martin, SE cor NE NE Sec. 35-14-3e. T.D. 5,092 ft.; ran electric log; S.D.; hd. L.

Howard County

Wm. James, tr.'s No. 3 I. M. Rooke, 50 ft. SW of No. 1, Sec. 2-8s-27w. T.D. 550 ft.; moved rig; W.O.

Lafayette County

East Texas Ref. Co. et al's No. 1-C C Warren et al, C NE SE NW Sec. 24-16-24. Tstd. S.W. 3,504-24 ft.; P.B. 2,275 ft.; drld. to 2,345 ft.; 5½-in. csg. 2,323 ft.; T.D. 2,345 ft.; arng. swb.

Lonoke County

Lunnon Howell & Ford's No. 1 City of Cabot, C NE Lot 1, Blk. 6, Sec. 18-4n-9w. Set 4¾-in. csg. 878 ft.; T.D. 886 ft.; tstd. dry; S.D.; W.O.

J. F. Russell's No. 1 J. T. Gunter, 440 ft. N, 577 ft. W, SE cor. Sec. 17-5n-10w. S.D. 2,124 ft.

Miller County

Dr. J. S. Rushing's No. 1 D. Wood, 1,681 ft. W, 461 ft. S, NE cor. Sec. 18-20-27. T.D. 6,135 ft.; set 7-in. csg. 6,-060 ft.; W.O.C.

Skelly Oil Co. and Pacific Western Oil Corp.'s No. 1 E. C. Wallis, C S½ SE SE Sec. 7-20-27. Set 9-in. csg. 1,948 ft.; W.O.C.

Standard Oil Co. of La.'s No. 1 W. P. Sturgis, 660 ft. S and W, C Sec. 1-17-27. Set 13⅜-in. csg. 315 ft.; T.D. 317 ft.

Nevada County

Berry Asphalt Co.'s No. 9 Groves Ld. & Tmbr. Co., 330 ft. S and W, C Sec. 10-14-20. Set 10-in. csg. 28 ft.; 500 ft. F.I.H.; W.O.S.R.; T.D. 1,266 ft.

Velma Oil Co.'s No. 1 T. M. Bemis, 330 ft. NW cor. NW NE Sec. 23-10s-22w. Set 10-in. csg. 66 ft.; S.D. 68 ft.

Ouachita County

Liberty Oil Co.'s No. 1 P. T. Hildebrand, 660 ft. S, 330 ft. W, NE cor. SE¼ Sec. 28-15-15. O.W.W.O.; O.T.D. 4,934 ft.; reperf. csg. 2,60025 ft.; tstd. S.W. and recmtd. perf.; arng. reperf.; T.D. 2,-784 ft.

Sevier County

R. A. McArthur's No. 1 Bell est., 20 ft. SE cor. SE SW Sec. 29-9s-32w. Drlg. hd. rd. sh. 709 ft.

St. Francis County

D. T. Hargraves et al's No. 1 J. T. Wellford, 400 ft. N, 300 ft. W, SE cor. NE NE Sec. 29-4n-1w. R.U.

Union County—Schuler

Phillips Pet. Co.'s No. 5 Brian, 330 ft. SE cor. NW SE Sec. 13-18-18. Set 9⅝-in. csg. 2,249 ft.; T. Jones sd. 7,544 ft.; set 5½in. 7,654 ft.; arng. perf.; T.D. 7,670 ft.

Union County—Other

Berg & Laney's No. 1 Cutrer, 150 ft. N, 660 ft. W, SE cor. NW SW Sec. 21-17-14. Cd. 2,727-28 ft.; rec. 7-in. por. sd.; cd. 2,728-35 ft.; rec. 7½ ft. soft por. sd., salty taste; drlg. by fish 350 ft.; T.D. 3,370 ft.

Bob Branch's No. 1 J. M. Davis, 130 ft. SW cor. SE NW Sec. 28-16-14. T.D. 3,458 ft.; wshg. to bttm.

Kinard, Curtis et al's No. 1 J. A. Kelly, 330 ft. SW cor. SE SW SW Sec. 9-17-14. Set 10-in. csg. 203 ft.; T.D. 205 ft.; W.O.C.

Ouachita Union Oil Corp.'s No. 1 Ramsey est., 330 ft. NE cor., SE NW Sec. 26-17-14. Set 10-in. csg. 107 ft.; set whpstk. 3,042 ft.; T.D. 3,490 ft.; wshg. to bttm.

Caddo Parish

J. W. Bailey's No. 1 Gibbs, Sec. 7-20-15. Drlg. sh.&sd. 1,021 ft.

Beauoon & Griffin's No. 1 Davidson, Sec. 26-21-16. R.U.

F. W. Burford's No. 2 Atkins, Sec. 5-23-15. 9⅝-in. csg. 850 ft.; W.O.C.

Burnham Drlg. Co.'s No. 5 Wilkinson, Sec. 33-22-16. Set 7-in. csg. 2,449 ft.

D. L. Butler's No. 1 Browning, Sec. 28-22-16. Drlg. 2,039 ft.

D. T. Caubie's No. 1 Darnell, Sec. 17-22-16. Set 10-in. csg. 80 ft.; drlg. 2,-693 ft.

Davidson & Brown's No. 1 Wells, Sec. 10-21-15. Set 8-in. csg. 1,597 ft.; acd. with 4,000 gal.; T.D. 1,789 ft.

Duncan & Harrison's No. 1 Carter, Sec. 9-21-16. Set 10-in. csg. 42 ft.; drlg. sh. 1,060 ft.

Galbraith & Mealey's No. 20 Rainer, Sec. 22-21-15. Set 6⅝-in. csg. 1,474 ft.; W. O.C.

Roger Harris' No. 1 Laines Evans, Sec. 11-20-16. Cg. 1,482 ft.

J. H. Hooker's No. 1 Muslow, Sec. 5-20-15. S.D. 800 ft.; rep. rig.

Kendricks & Bashaw's No. 1 Huckaby-Parker, Sec. 14-22-16. Drlg. 430 ft.

Bobby Manziel's No. 1 City of Shreveport, 660 ft. NW cor. SW¼ Sec. 35-18-14. Por. L. 5,556-75 ft.; set 5½-in. csg. 5,562 ft.; drld. plug; swbg.

Murray Samuels' No. 1 Howard, Sec. 1-20-16. Drlg. sh. 578 ft.

Southern Oil Co.'s No. 2 Muslow, Sec. 5-20-15. Set 7-in. csg. 1,395 ft.; W.O.C.

Stanolind O. & G. Co.'s No. 2 Alexander, 670 ft. E, 2,461 ft. S, NW cor. SE Sec. 21-21-15. Acd. with 3,000 gal.; T.D. 1,-750 ft.; W.O.S.R.

Stanolind O. & G. Co.'s No. 1 Lane, Sec. 25-21-15. Set 5½-in. csg. 1,380 ft.; W. O.C.

Stanolind O. & G. Co.'s No. 13 Slattery, Sec. 21-21-15. Set 8⅝-in. csg. 69 ft.; set 5½-in. csg. 1,401 ft.; T.D. 1,569 ft.; tstg.

E. A. Stiller et al's No. 1 Stiles, Sec. 28-21-16. Set 6⅝-in. csg. 2,195 ft.; W.O.C. 2,330 ft.

H. J. Streif's No. 1 Noel est., sec. 12-28-16. Set 7-in. csg. 1,328 ft.; tstg. 1,543 ft.

H. J. Strief's No. 2 Noel est., Sec. 12-20-16. R.U.

Jack Terrell's No. 1 Welch, Sec. 3-20-16. Set 6-in. csg. 946 ft.

Texas Co.'s No. 2 Atkins fee, Sec. 7-20-15. Set 6⅝-in. csg. 1,356 ft.; T.D. 1,-360 ft.; arng. test.

Texas Co.'s No. 20-B Noel, Sec. 14-21-15. Set 6⅝-in. csg. 1,513 ft.; tstg 1,667 ft.

W. & W. Oil Co.'s No. 4 Ark. F. O. Co., Sec. 12-20-16. S.D. 1,150 ft.; jnkd. hole 1,150 ft.; skd. over 40 ft. SW and R.U.

Sloan Wells' No. 1 Stiles, 3,734 ft. N. 1,706 ft. E, SW cor. Sec. 32-21-16. Set 10-in. csg. 340 ft.; set 6⅝-in. csg. 2,-298 ft.; W.O.C.

Ivan W. Wright's No. 1 Moore, Sec. 1-20-16. Set 10-in. csg. 40 ft.; S.D. 300 ft. to rep. rig.

De Soto Parish

Dewey Jaun's No. 1 Frost Lbr. Ind., 660 ft. SE cor. SW¼ Sec. 14-22-3e. T. D. 2,949 ft.; bailed down 2,300 ft.; S. S.O.; tstg. 2,949 ft.

La Salle Parish

Georgetown Oil Co.'s No. 4 Baldridge, 300 ft. S, 250 ft. E, NW cor. NE NW Sec. 11-9-1e. R.U.

Graham & Harter's No. 40 Urania, 700 ft. S, 500 ft. E, NW cor. SW NW Sec. 18-10-2e. 6⅝-in. csg. 1,514 ft.; tstg. 1,-519 ft.

H. L. Hunt and Ark. Fuel Oil Co.'s No. 1 Goodpine Lbr. Co., C NW NW Sec. 18-10n-3e. Fsg. 3,030 ft.; blew out and bridged at 1,200 ft.; drld. bridge and twisted off 2,000 ft. D.S.; left wall hook in hole while fsg.; P.B. 900 ft. whpstk. 900 ft.; ran Schlmb. to 3,039 ft.; drlg. gr. sh. 8,092 ft.

Placid Oil Co.'s No. 9 Cent. La., 810 ft. S. 150 ft. W, NE cor. Sec. 13-10-2e. Cd. 2,884-2,903 ft.; soft, gr. por. sd.; S.O.; set 5½in. csg.; drlg. plug.

Morehouse Parish

Southern Carbon Co.'s No. 27 Tensas, 1,-341 ft. S, 4,009 ft. E, NW cor. Sec. 2-21-4. R.U.

Natchitoches Parish

J. E. Watts' No. 1 Tanner est., 330 ft. SW cor. NW¼ Sec. 18-10-10. Set 10-in. csg. 60 ft.; W.O.C.

Sabine Parish

P. C. Alexander's No. 1 Tilly, 330 ft. SW cor. NE SE Sec. 30-8-12. R.U.

A. R. Chestnut's No. 1 Logan, 330 ft. SW cor. NW NW Sec. 26-10-13. R.U.

R. Chestnut's No. 1 Walden, 330 ft. SE cor. NE NE Sec. 27-10-13. Set 10-in. csg. 42 ft.; set 7-in. csg. 1,458 ft.; T.D. 1,986 ft.; pmpd. S.W.; S.O.; S.D.; W.O.

N. B. Livingston's No. 1 Bowman Hicks, 660 ft. SE cor. SW Sec. 36-9-14. Set 10-in. csg. 110 ft.; D.S.T. 3,125-59 ft.; ¼-in. cks. T.&B.; 35 min.; rec. 150 ft. mud and S.G.; rng. 5½-in. csg. 3,508 ft., T.D.; tstd. gas 3,462-3,535 ft.; perf. between 3,134 ft. and 3,462 ft. and tstd. est. 1,000,000 cu. ft. gas, S.O. and S.W.; P.B. 3,200 ft.; tstd. S.W.; S.O. 3,134-50 ft.; acd. with 1,500 gal.; tstd. S.W. and 50 B.O.; R.U. pmp.; T.D. 3,-170 ft.

Major Oil Co.'s No. 2 Sabine, 330 ft. SE cor. SE SW Sec. 5-7-13. Set 7-in. csg. 2,061 ft.

Claude H. Smith's No. 1 Whitney Corp., 330 ft. N and E, C Sec. 24-10-14. S.D. 3,210 ft.; W.O.

J. H. Thames' No. 1 Long Bell, 330 ft. SW cor. NE SE Sec. 5-8-13. T.D. 1,708 ft.; set 7-in. csg. 1,680 ft.; did not tst. 1,708 ft.; T.D. 1,987 ft.; will acd.

Union Parish

Memphis Nat. Gas Co.'s No. 5 Lankford, Sec. 3-21-3. Set 8-in. csg. 824 ft.; W. O.C.

Memphis Nat. Gas Co.'s No. 1 Wilson, Sec. 2-21-3. Set 8-in. csg. 768 ft.; W. O.C.

Webster Parish

Hassie Hunt's No. 2 Coyle, C SW SE Sec. 22-21-10. No Hillwy. sd.; P.B.; set 5,918 ft.; T.D. 6,294 ft.; tstd. small amt. oil; rocking with gas and tstg; T. Hillwy. sd. 5,543 ft.

Hunt Oil Co.'s No. 1 Gains, 50 ft. NW C NW NE Sec. 30-21-9. Set 9⅝-in. csg. 5,615 ft.; no Hillwy. sd.; C.O.; cond. mud; drlg. 8,062 ft.

Hunt Oil Co.'s No. 1 Jordan, 660 ft. N, 560 ft. W, SE cor. NE Sec. 31-21-10. No Hillwy. sd.; drlg. 7,746 ft.

Hunt Oil Co.'s No. 5 Stewart, 660 ft. N, 560 ft. E, SW cor. NW¼ Sec. 29-21-10. Set 9⅝-in. csg. 5,610 ft.; drlg. 6,616 ft.

Quad Oil Co.'s No. 3 Gray, 105 ft. SE cor. NE SE Sec. 27-21-10. R.U.

LOUISIANA

NORTH LOUISIANA

Bienville Parish

Harry Hanbury's No. 1 Holston unit, 70 ft. from NE cor. SW NE Sec. 29-18-6. Drlg. sh. 7,457 ft.

Bossier Parish

Gulf Ref. Co.'s No. 20 C. B. Hodges, 3,-131 ft. N, 1,383 ft. W, SE cor. Sec. 24-16-12. T. Pett. L. 5,298 ft.; T. Travis Pk. 5,590 ft.; D.S.T. 8,261-93 ft.; tstd. 220 ft. mud; T.D. 8,647 ft.; no show; P.B. 1,640 ft. to clk.; perf. 1,550-62 ft. W.O.S.R.

Premier Dev. Co.'s No. 1 Mehaffey, 150 ft. S, 1,980 ft. W, NE cor. Sec. 27-19-11. Set 12½-in. csg. 155 ft.; W.O.C.

Triangle Drlg. Co.'s No. 5-A Skannal, 2-001 ft. E, 665 ft. N, SW cor. Sec. 13-17-12. Set 9⅝-in. csg. 240 ft.; drlg. 1,-618 ft.

Union Prod. Co.'s No. 1-B Thigpen-Herold, 1,275 ft. S, 1,279 ft. E, NW cor. Sec. 19-17-11. T. Pett. L. 4,948 ft.; killed gas flow; set 5½-in. csg. 3,170 ft.; T.D. 5,210 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co.'s No. 1 Boudoin, Sec. 64-12s-3e. R.U.

Continental Oil Co.'s No. 1 David Meaux, Sec. 9-12s-3e. T.D. 11,359 ft.; T. gas sd. 11,318 ft.; D.S. stk.; P.B. and sidetracked; T.D. 11,545 ft.; perf. csg. 11,-320-30 ft.; rec. S.W.; abd.

Continental Oil Co.'s No. 1 Motty, Sec. 18-12s-3e. T.D. 10,444 ft.; sdtrkd.; drlg. 9,485 ft.

Anse La Butte—St. Martin Parish

Glassell & Glassell's No. 2 Breaux, Sec. 118-9s-5e. Drlg. sh. 1,285 ft.

Iberia Pet. Co.'s No. 1 A. P. Moresi, Sec. 118-9s-5e. Drlg. 275 ft.

Emer Line Oil Co.'s No. 1 Nickerson, Sec. 86-9s-5e. T.D. 2,634 ft.; P.B. 1,-000 ft.

Bancroft—Beauregard Parish

Republic Prod Co.'s No. 15 Columbia Ld. Co., Sec. 21-6s-13w. R.U.

Republic Prod. Co.'s No. 16 Columbia Ld. Co., Sec. 21-6s-13w. Drlg. sh. 4,-926 ft.

Republic Prod. Co.'s No. 2 Hennigan, Sec. 15-6s-13w. T.D. 7,330 ft.; 5½-in. csg. 7,317 ft.; I.P. 164 B.P.D.; 5/32-in. ck.

Barataria—Jefferson Parish

California Oil Co.'s No. 1 Danciger-State, Sec. 2-16s-23e. Drlg. 1,520 ft.

California Oil Co.'s No. 1 State-Bayou, Twp. 16s-23e. Drlg.

California Oil Co.'s No. 1 Zeringue-Community, Sec. 2-16s-23e. Drlg. 2,620 ft.

Carter, Perrin & Brian's No. 1 Ruttley Wiseman, Sec. 2-16s-23e. Drlg. sh. 2,-830 ft.

Geo. Conover's No. 1 Conover Community, Sec. 22-15s-23e. Loc.

Fohs Oil Co.'s No. 1 Conzelman, Sec. 22-15s-23e. Loc.

Bateman Lake—St. Mary Parish

Texas Co.'s No. 3 State, Sec. 16s-12e. T.D. 10,975 ft.; 7-in. csg. 10,970 ft.

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GIDDENS-LANE BUILDING -:- SHREVEPORT, LA.

Texas Co.'s No. 3 Wax Bayou, Sec. 2' 16s-12e. 7-in. csg. 10,984 ft.; T.D. 11,127 ft.; rec. 275 ft. of oil 10,879-10,900 ft.; D.S. stk.; fsg.

Texas Co.'s No. 4 Wax Bayou, Sec. 2' 16s-12e. T.D. 11,007 ft.; 7-in. csg. 11,003 ft.; P.B. 6,910 ft.; perf. csg. 6,885-6,900 ft.; rec. S.W.

Baton Rouge—East Baton Rouge Parish

Guaranty Oil Co.'s No. 2 Morgan, Sec. 65-7s-1w. T.D. 6,530 ft.; 5½-in. csg. 6,450 ft.; swbd. S.W.; S.D.

Wm. Helis' No. 8 Nelson, Sec. 36-7s-1w. Drlg. 2,630 ft.

Sugarfield Oil Co.'s No. 2 McDonald Community, Sec. 46-7s-1e. Drlg. sh. 2,215 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co.'s No. 3 L.L.&E., Sec. 18-22-18e. T.D. 6,053 ft.; 7-in. csg. 6,000 ft.

Bayou Blue—Iberville Parish

Superior Oil Co.'s No. 2 Schwing Lbr. & Shingle Co., Sec. 74-9s-10e. Drlg. sh. 3,420 ft.

Bayou Choctaw—Iberville Parish

Standard Oil Co. of La.'s No. 2 Cypress, Sec. 28-8s-11e. R.U.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co.'s No. 2-B Wilberts Sec. 78-8s-8e. 10¾-in. csg. 2,854 ft.; drlg. sh.&shells 6,717 ft.

Black Bayou—Cameron Parish

Shell Oil Co., Inc.'s No. 44 Watkins, Sec. 7-12s-12w. S.D. 5,826 ft., salt.

Caillou Island—Terrebonne Parish

Texas Co.'s No. 64 State, Sec. 20-23s-20e. T.D. 5,790 ft., salt; run csg.

Texas Co.'s No. 65 State, Sec. 17-23s-20e. Cg. sdy. sh. 6,272 ft.

Cameron Meadows—Cameron Parish

Magnolia Pet. Co.'s No. 27 Cameron Meadows, Sec. 21-14s-13w. R.U.

Chacahoula—La Fourche Parish

Sun Oil Co.'s No. 1 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,842 ft.; T. salt 6,072 ft.; T.D. 6,088 ft.; P.B. 2,100 ft.; sdtrkd.; T.D. 6,553 ft.; fsg.; sdtrkd.; T.D. 5,544 ft.; P.B. to sdtrk.; T.D. 7,271 ft.; sdtrkd.; T.D. 7,426 ft.; P.B. 4,075 ft.; S.D.

Sun Oil Co.'s No. 7 Dibert, Stark & Brown Cypress Co., Sec. 70-15s-15e. Drlg. sh. 5,356 ft.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 1-B Sweet Lake Ld. & Oil Co. 10¾-in. csg. 2,784 ft.; T.D. 8,795 ft.; abd.

Shell Oil Co., Inc.'s No. 6 Hanzen, Sec 21-12s-6w. T.D. 8,951 ft.; perf. csg. 8,910-33 ft.; I.P. 880 bbl. P.D.; ¼-in ck.; well went to S.W.; P.B. 8,940 ft.; swbg.

Shell Oil Co., Inc.'s No. 7-A Hanszen, Sec. 20-12s-6w. R.U.

Union Sulphur Co.'s No. 1 Sweet Lake Ld. Co., Sec. 13-12s-7w. Cg. sh. 9,020 ft.

Cheneyville—Rapides Parish

S. W. Richardson's No. 9 Well, Sec. 53-1s-2e. T.D. 6,591 ft.; 5½-in. csg. 6,495 ft.; drlg. out cmt.

Creole—Cameron Parish

Superior Oil Co.'s No. 10 State-Gulf of Mexico, Twp. 15s-8w. T.D. 8,607 ft.; sdtrkd.; T.D. 6,725 ft.; 5½-in. csg. 6,725 ft.; perf. csg. 6,690-95 ft.; 145 B. P.D.; 10/64-in. ck.

Darrow—Ascension Parish

Humble O. & R. Co.'s No. 28 Community, Sec. 30-10s-2e. R.U.

Humble O. & R. Co.'s No. 29 Community, Sec. 30-10s-2e. Loc.

Humble O. & R. Co.'s No. 17 Gumbel Sec. 36-10s-2e. T.D. 8,570 ft.; P.B. 7,389 ft.; sdtrkd.; T.D. 7,503 ft.; P.B. sdtrkd.; T.D. 8,341 ft.; 5½-in. csg. 8,339 ft.; perf. csg. 8,274-86 ft.; started making S.W.; sdtrkd.; drlg. sh. 8,570 ft.

Kiva Oil Co. No. 1 Duplessis, Sec. 69 10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co.'s No. 10 State, Sec. 1-22s-15e. T.D. 7,772 ft.; abd.

Texas Co.'s No. 11 State, Sec. 32-21s-16e 10¾-in. csg. 1,751 ft.; T.D. 6,818 ft., salt; T. salt 6,807 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp.'s No. 1-A Dent., Sec. 10-2s-2e. Drlg. sh. 2,630 ft.

Amerada Pet. Corp.'s No. 3 Dent, Sec. 10-2s-2e. Drlg. 7,660 ft.

Amerada Pet. Corp.'s No. 8 Glaize, Sec. 6-2s-3e. T.D. 8,569 ft.; 5½-in. csg. 8,567 ft.; perf. csg. 8,497-8,538 ft. and 8,543-67 ft.; I.P. 408 bbl., 12½ hrs.; ¼-in. ck.

Amerada Pet. Corp.'s No. 3 Irion, Sec. 6-2s-3e. R.U.

Amerada Pet. Corp.'s No. 1 Monchau, Sec. 1-2s-2e. Cg. sd.&sh. 8,430 ft.

Gulf Oil Corp.'s No. 1 Mouliere, Sec. 1-2s-2e. Cg. 8,576 ft.

G. R. Kenedy's No. 1 Josie Hudson, Sec. 1-2s-2e. R.U.

Magnolia Pet. Co.'s No. 1 O. Q. Foster Sec. 6-2s-3e. R.U.

S. W. Richardson's No. 10 Haas Inv. Co., Sec. 7-2s-3e. Drlg. sh. 6,336 ft.

Sun Oil Co.'s No. 3 Townsend, Sec. 8-2s-3e. T.D. 8,572 ft.; P.B.; sdtrkd.; T.D. 8,530 ft.

Fausse Point—Iberia Parish

Sun Oil Co.'s No. 1 Planters Lbr. Co., Sec. 27-11s-8e. Bldg. drk.

Texas Co.'s No. 7 State, Sec. 35-11s-8e. R.U.

Garden Island—Plaquemines Parish

Texas Co.'s No. 40 State-Garden, Sec. 38-23s-33e. T.D. 5,760 ft.; 7-in. csg. 5,751 ft.

Texas Co.'s No. 41 State, Sec. 38-23s-33e T.D. 6,404 ft.; 7-in. csg. 6,236 ft.; perf. csg. 6,080-6,130 ft.; I.P. 453 B.P.D.; ¼-in. ck.

Texas Co.'s No. 42 State, Sec. 38-23s-33e. Loc.

Gibson—Terrebonne Parish

Shell Oil Co., Inc.'s No. 8 Pelican, Sec. 35-17s-15e. Drlg. sh. 7,837 ft.

Golden Meadow—La Fourche Parish

Bateman Drlg. Co.'s No. 1 Harry Louviere, Sec. 9-19s-22e. T.D. 5,560 ft.; 5½-in. csg. 5,260 ft.; perf. csg. 5,150-80 ft.; S.D.

Bennett O. & R. Co.'s No. 1 Philosate, Sec. 12-19s-22e. T.D. 8,605 ft.; perf. csg. 8,360-8,400 ft.; blew out, flwg. oil and gas.

Berkshire Oil Co.'s No. 1 Malgom, Sec. 2-19s-22e. M.I.M.

Brown & Woods' No. 1 S. Hogan, Sec. 9-19s-22e. T.D. 2,710 ft.; P.B. to 1,500 ft.; sdtrkd.; T.D. 2,672 ft.; 7-in. csg. on bttm.; perf. csg. 2,650-65 ft.; would not flow; S.D.

Taylor Fithian's No. 1 Cheramie, Sec 12-19s-22e. R.U.

Temple Hargrove's No. 2 Gaspard, Sec. 9-19s-22e. T.D. 8,654 ft.; perf. csg. 7,920-30 ft.; I.P. 678 B.P.D.; ¼-in. ck.

Wm. Helis' No. 3 Gaspard, Sec. 9-19s-22e. 6-in. csg. 2,655 ft.; T.D. 2,664 ft.; sanded up; S.D.

Geo. Lilly's No. 1 Collins, Sec. 12-19s-22e. T.D. 5,500 ft.; 5-in. csg. 5,498 ft.; perf. csg. 5,455-60 ft.; sanded up.

M. H. Marr et al's No. 2 B. & D. unit, Sec. 17-19s-22e. Loc.

M. H. Marr et al's No. 4 Adam Terrebonne, Sec. 9-19s-22e. Drk.

Martex Oil Corp.'s No. 1-C Rebstock Community, Sec. 2-19s-22e. Drlg. sh. 3,419 ft.

Martex Oil Co.'s No. 3-A Rebstock, Sec. 2-19s-22e. T.D. 2,665 ft.; 5-in. csg. 2,665 ft.; perf. csg. 2,630-62 ft.; would not flow.; S.D.

Fred Shield's No. 1 Lafont, Sec. 2-19s-22e. 10¾-in. csg. 103 ft.; S.D.

Terouche Oil Co.'s No. 2 Cheramie, Sec. 12-19s-22e. Drk.

Texas Co.'s No. 6 State-Catfish Lake, Sec. 2-20s-21e. T.D. 2,675 ft.; 7-in. csg. 2,648 ft.; I.P. 195 B.P.D.; ¼-in. ck.

Texas Co.'s No. 7 Falgout Holding Co. Sec. 9-19s-22e. T.D. 7,940 ft.; 7-in. csg. 7,940 ft.

Texas Co.'s No. 11 Falgout Holding Co., Sec. 9-19s-22e. Drlg. sd. 2,402 ft.

Texas Co.'s No. 9 Golden Meadow, Sec. 78-19s-21e. T.D. 5,175 ft.; 7-in. csg. 5,158 ft.; sanded up.

Texas Co.'s No. 3 La Terre Co., Sec. 1 20s-21e. T.D. 5,673 ft.; sdtrkd.; drlg. sd.&sh. 9,543 ft.

Grand Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 7-A Grand Prairie Lv. Dist., Sec. 5-20s-19e. Loc.

Gulf Oil Corp.'s No. 8-A Grand Prairie Dist., Sec. 5-20s-19e. Loc.

Gulf Oil Corp.'s No. 4 State, Sec. 20-19s-19e. Drlg. sh. 6,520 ft.

Texas Co.'s No. 1 State-Lookout Pass, Sec. 48-20s-18e. Loc.

Texas Co.'s No. 2 State-Lookout Pass Sec. 31-19s-19e. T.D. 10,342 ft.; run 7-in. csg.

Gulf Oil Corp.'s No. 1 State, QQ, Sec. 6-20s-19e. Drlg. sh. 8,203 ft.

Grand Lake—Cameron Parish

Amerada Pet. Corp.'s No. 3 State, Sec. 12-13s-4w. T.D. 9,004 ft.; 5½-in. csg. 9,003 ft.; perf. csg. 8,532-8,405 ft.; I.P. 432 B.P.D.; 10/64-in. ck.

Amerada Pet. Corp.'s No. 5 State, Twp. 13s-14w. Drlg. sh. 2,216 ft.

Superior Oil Co.'s No. 8 State-Lake, Twp. 13s-4w. Loc.

Superior Oil Co.'s No. 7 State, Sec. 11-13s-4w. T.D. 8,990 ft.; 7-in. csg. 8,990 ft.

Hackberry—Cameron Parish

Harrison & Abercrombie's No. 1 Doiron, Sec. 37-12s-10w. 10¾-in. csg. 1,441 ft. drlg. sh. 6,390 ft.

Stanolind O. & G. Co.'s No. 21-A Cameron Sch. Bd., Sec. 16-12s-10w. Drlg. sh. &shells 8,340 ft.

Superior Oil Co.'s No. 9 Benson Vincent, Sec. 30-12s-10w. 9⅝-in. csg. 950 ft.; W.O.C.

Texas Co.'s No. 17-B State, Twp. 12s-9w. T.D. 6,850 ft.; 5-in. csg. 6,790 ft.

Texas Co.'s No. 29-B State, Twp. 12s-9w. Drlg. sh. 7,830 ft.

Happytown—Iberville Parish

Shell Oil Co., Inc.'s No. 1 Schwing Lbr. & Shingle Co., Sec. 85-7s-8e. Drlg. sh. 4,564 ft.

Jeanerette—St. Mary Parish

Herton Oil Co.'s No. 6 Roane, Sec. 38-13s-9e. T.D. 10,789 ft.; 7⅝-in. csg. 10,260 ft.; P.B. 6,675 ft.; prep. to test.

Jefferson Island—Iberia Parish

Texas Co.'s No. 4 Jefferson Island Salt, Sec. 58-12s-5e. T.D. 8,498 ft.; 7⅝-in. csg. 8,494 ft.

Texas Co.'s No. 3 State, Twp. 12s-5e. Drlg. sh.&L. 5,635 ft.

Jennings—Acadia Parish

Brown & Sisson's No. 1 Arnaudet, Sec. 47-9s-2w. Drlg. sh. 1,310 ft.

Glassell-Glassell's No. 8 McFarlain, Sec. 41-8s-2w. Drk.

Glassell-Glassell's No. 8 Trusher, Sec. 47-9s-2w. T.D. 9,165 ft.; sdtrkd.; 7-in. csg. 8,750 ft.; T.D. 10,768 ft.; P.B. 8,660 ft.

Gulf Oil Corp.'s No. 42 Arnaudet, Sec. 47-9s-2w. 7-in. csg. 7,961 ft.; drlg. sh. &sd. 7,968 ft.

Illes Pet. Co.'s No. 5 Jen-Haywood, Sec. 41-9s-2w. T.D. 2,065 ft.; 6-in. csg. 2,035 ft.; I.P. 40 B.O., 135 bbl. S.W.; pmpg.

Shell Oil Co., Inc.'s No. 9 Community T.D. 7,599 ft.; 7-in. csg. 7,599 ft.; perf. csg. 7,510-20 ft.; I.P. 115 B.P.D.; ¼-in. ck.

Stanolind O. & G. Co.'s No. 117 Crowley O. & Min. Co., Sec. 48-9s-2w. Drlg. sh. 1,536 ft.

Stricker-Pharis et al's No. 1 Gulf fee, Sec. 45-9s-2w. 16-in. csg. 60 ft.; drlg. sh.&L. 6,465 ft.

Lafitte—Jefferson Parish

Texas Co.'s No. 15 Lafitte, Sec. 20-17s-24e. T.D. 10,135 ft.; 7-in. csg. 10,123 ft.; perf. csg. 9,725-50 ft.; tstd. dist.; killed well to retest.

Texas Co.'s No. 16 L.L.&E., Lafitte, Sec. 17-17s-24e. Loc.

Texas Co.'s No. 6-A Madison Realty Co., Sec. 17-17s-24e. Dredge canal.

Texas Co.'s No. 5 Marrero, Sec. 21-17s-24e. Drlg. sh.&L. 10,180 ft.

Texas Co.'s No. 12 Rigolets Cooperative Fur Co., Sec. 28-17s-24e. T.D. 10,197 ft.; 7-in. csg. 10,182 ft.; perf. csg. 9,920-30 ft.; I.P. 634 B.P.D.; ¼-in. ck.

Texas Co.'s No. 13 Rigolet Cooperative Fur Co., Sec. 29-17s-24e. Dredge canal.

Texas Co.'s No. 3 State, Bayou Norman, Sec. 21-17s-24e. Drlg. sdy. sh. 8,534 ft.

La Fourche Crossing—La Fourche Parish

Mikton Oil Co.'s No. 2 Martinez, Sec. 132-15s-17e. 11¾-in. csg. 2,687 ft.; T.D. 4,904 ft.; P.B. 4,700 ft.; T.D. 10,998 ft.; 5½-in. csg. 10,042 ft.; tstg.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp.'s No. 11 La Fourche Basin Lv. Dist., Sec. 11-18s-25e. P.B. 1,395 ft.; sdtrkd.; drlg. sh. 2,505 ft.

Lake Mongoulois—St. Martin

Texas Co.'s No. 8 State, Sec. 10-10s-9e. Drk.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 30 Lake Pelto, Sec. 7-23s-18e. T.D. 5,271 ft., salt; sdtrkd.; T. salt 5,243 ft.; P.B. 3,119 ft.; drlg. sh. 4,430 ft.

La Place—St. James Parish

Pan American Prod. Co.'s No. 1 Godchaux Sugars, Sec. 97-11s-7e. 10¾-in. csg. 2,814 ft.

New Iberia—Iberia Parish

Acadian Prod. Co.'s No. 4 E. T. Weeks, Sec. 51-12s-7e. Loc.

Wm. Helis' No. 9 Schwing, Sec. 56-12s-7e. T.D. 855 ft.; 7-in. csg. 825 ft.; W. O.S.R.

Wm. Helis' No. 10 Schwing, Sec. 56-12s-7e. Drlg. 2,203 ft.

Texas Co.'s No. 2 Bryant, Sec. 25-12s-7e. R.U.

Texas Co.'s No. 7 Bryant, Sec. 25-12s-7e. Drk.

Texas Co.'s No. 15 Duke, Sec. 26-12s-7e. T.D. 3,638 ft.

Texas Co.'s No. 2 Hebert, Sec. 25-12s-7e. T.D. 1,935 ft.; 10¾-in. csg. 1,935 ft.; drlg. sdy. sh. 3,530 ft.

Texas Co.'s No. 1 H. Perry Walet, Sec. 2-12s-7e. T.D. 9,116 ft.; 7-in. csg. 8,838 ft.; perf. csg. 7,888-7,900 ft.; W. S.R.

Texas Co.'s No. 2 Smith, Sec. 71-12s-7e. Drlg. L. 7,320 ft.

North Crowley—Acadia Parish

Humble O. & R. Co.'s No. 1 Reiners, Sec. 45-8s-1e. Drlg. sh. 8,000 ft.

Humble O. & R. Co.'s No. 7 Williams, Sec. 33-8s-1e. Drlg. sh. 8,315 ft.

Paradis—St. Charles Parish

Jolly Pet. Co.'s No. 1 Matthews Oliveira, Sec. 4-14s-20e. R.U.

Texas Co.'s No. 3 L.L.&E. Paradis, Sec. 8-14s-20e. 10¾-in. csg. 1,448 ft.; T.D. 10,490 ft.; 7-in. csg. on bttm.; cd. O.S. 10,188-10,256 ft.; drlg. limy sd. 11,025 ft.

Plumb Bob—St. Martin Parish

Texas Co.'s No. 13 St. Martin Ld. Co., Sec. 21-8s-7e. Drlg. sh.&L. 6,048 ft.

Port Barre—St. Landry Parish

Gulf Oil Corp.'s No. 17 Wilson-Broach, Sec. 4-6s-5e. T.D. 4,961 ft.; P.B. 2,061 ft.; sdtrkd.; T.D. 5,704 ft., salt; P.B. sdtrkd.; drld. to 5,125 ft.

McDannald Oil Co.'s No. 2 Futral, Sec. 20-6s-5e. T.D. 5,514 ft.; sdtrkd.; drlg. sh. 4,570 ft.

McDannald Oil Co.'s No. 1 Sibille, Sec. 7-6s-6e. Bldg. rd.

McDannald Oil Co.'s No. 2 Sibille, Sec. 7-6s-6e. Loc.

Y. D. Spill's No. 1 Gaudet, Sec. 4-6s-5e. S.D. 4,700 ft.

Texas Co.'s No. 27 Botney Bay, Sec. 4-6s-5e. T.D. 6,003 ft.

Westgate-Greenland Oil Co.'s No. 1 Jeansenne, Sec. 20-6s-5e. 7-in. csg. 5,286 ft.; perf. csg.; T.D. 5,314 ft.; S.D.

Potash—Plaquemines Parish

Humble O. & R. Co.'s No. 42 Orleans Lv. Dist., Sec. 14-18s-15e. Drlg. sd. 3,306 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 6-A Orleans Levee Bd., Sec. 7-19s-17e. Dredge canal.

Gulf Oil Corp.'s No. 9 State QQ, Sec. 18-19s-17e. T.D. 8,634 ft.; 7-in. csg. 8,090 ft.; tstg.

Gulf Oil Corp.'s No. 12 State, Sec. 18-19s-17e. Drlg. sdy. L. 7,570 ft.

Raceland—La Fourche Parish

Amerada Pet. Corp.'s No. 5 South Coast Corp., Sec. 34-15s-19e. R.U.

Sorrento—Ascension Parish

Sorrento Synd.'s No. 2 L. L. Bernard Sec. 22-10s-4e. R.U.

South Jennings—Jeff Davis Parish

Stanolind O. & G. Co.'s No. 1 Clare E. Landry and A. A. Hebert. T.D. 9,638 ft.; run electrical survey.

Stanolind O. & G. Co.'s No. 1 Morgan, Sec. 15-10s-3w. Drlg. sh. 7,730 ft.

Stanolind O. & G. Co.'s No. 1 L. Remage, Sec. 9-10s-3w. Drlg. sh. 6,940 ft.

Starks—Calcasieu Parish

W. T. Burton's No. 1 Industrial Lbr. Co., Sec. 29-9s-1w. Run screen to test; T.D. 7,420 ft.; P.B. 7,350 ft.; abd.

Sweet Lake—Cameron Parish

Pure Oil Co.'s No. 15 Yount Lee, Sec. 12-13s-8w. Drlg. sh. 3,720 ft.

Valentine—La Fourche Parish

Wm. Helis' No. 6 Valentine Sugars, Inc., Sec. 2-17s-20e. Drk.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 7 Buras Lv. Bd., Sec. 22-21s-30e. 16-in. csg. 205 ft.; drlg. sdy. sh. 8,640 ft.

Vermilion Bay—Iberia Parish

Texas Co.'s No. 4-B Vermilion Bay, Twp. 16s-5e. T. salt 5,855 ft.; T.D. 5,860 ft.; 11¾-in. csg. 4,454 ft.

Villa Platte—Evangeline Parish

Amerada Pet. Corp.'s No. 1 Leona O. Roberie, Sec. 1-4s-2e. R.U.

Continental Oil Co.'s No. 3 Corell, Sec. 36-3s-2e. Drlg. sh. 8,400 ft.

Continental Oil Co.'s No. 2 B. G. Fontenot, Sec. 41-4s-2e. T.D. 8,414 ft.; fsg.

Continental Oil Co.'s No. 6 Fontenot, Sec. 41-4s-2e. Drk.

Continental Oil Co.'s No. 5 Haas, Sec. 44-3s-2e. M.I.M.

Continental Oil Co.'s No. 5 Oscar Pitre, Sec. 40-4s-2e. Drlg. sh. 7,336 ft.

Continental Oil Co.'s No. 1 Adam Tate, Sec. 41-4s-2e. Loc.

Continental Oil Co.'s No. 1 David Tate, Sec. 36-3s-2e. Drlg. sh. 9,117 ft.

Continental Oil Co.'s No. 1 J. E. Vidrine, Sec. 1-4s-2e. T.D. 5,637 ft.; fsg.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc.'s No. 4 Jeanerette 7⅝-in. csg. 10,683 ft.; cg. sh. 11,421 ft.

White Castle—Iberville Parish

Shell Oil Co., Inc.'s No. 1 Forest Home. T.D. 5,380 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co.'s No. 2 Norton, Sec. 12-9s-6w. Drlg. 8,190 ft.

Union Sulphur Co.'s No. 1 Trimble, Sec. 7-9s-5w. Drlg. sh. 9,500 ft.

Woodlawn Oil Corp.'s No. 1 Hebert, Sec. 1-9s-4w. T.D. 9,543 ft.; 7-in. csg. 9,170 ft.; perf. csg. 9,189-93 ft.; flwd. S.W. and dist.; well flwd. 100% S.W.; plld. tbg.; set cmt. retainer at 9,175 ft.; sqzd. perf.; reperf. csg. 8,139-42 ft.; flwg. 16 bbl. dist. per day; ⅝-in. ck.

S. LOUISIANA WILDCATS

Acadia Parish

Humble O. & R. Co.'s No. 1 Leger, Sec. 83-8s-2e. Drk.

Vincent, Welch & E. J. Nicklos' No. 1 L. Ruppert, Sec. 21-7s-1w. Drlg. sh. 2,440 ft.

Assumption Parish

Falcon-Seaboard Drlg. Co.'s No. 1 Alex Simoneaux, Sec. 43-12s-13e. 18⅝-in. csg. 60 ft.; T.D. 1,162 ft.

Beauregard Parish

Atlantic Ref. Co.'s No. 1 Lutcher Moore Lbr. Co., Sec. 13-5s-12w. Drlg. sh. 9,424 ft.

Atlantic Ref. Co.'s No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.

Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.

Atlantic Ref. Co.'s No. 1 D. A. Whitmer. Sec. 26-3s-11w. 10¾-in. csg. 2,037 ft.; T. Cockfield sd. 5,684 ft.; drlg. sdy. sh. 7,610 ft.

California Oil Co.'s No. 3 Long Bell Lbr. Co., Sec. 24-5s-11w. Drk.

Cameron Parish

Phillips Pet. Co.'s No. 1 Miami Corp., Sec. 11-14s-6w. T.D. 10,195 ft.; well tried to blow out; stk. D.S.; fsg.

Superior Oil Co.'s No. 1 State, Calcasieu Lake Twp. 14s-9w. Drlg. sh. 1,201 ft.

Iberia Parish

Plymouth Oil Co. et al's No. 1 Lynch McHugh, Sec. 13-12s-10e. 10¾-in. csg

2,519 ft.; T.D. 10,021 ft.; prep. to run electrical survey.

Jeff Davis Parish

Continental Oil Co.'s No. 1 Niblett, Sec. 1-11s-5w. 13⅜-in. csg. 2,085 ft.; drlg. sh. 11,187 ft.

H. M. Naylor's No. 1 Acadia Dev. Co., Sec. 12-10s-2w. R.U.

Union Sulphur Co.'s No. 1 Somson, Sec. 35-7s-4w. Drlg. sdy. sh. 2,836 ft.

Jefferson Parish

Vendome Pet. Co.'s No. 1 Coulon, Sec. 15-15s-23e. Canal comp.

La Fourche Parish

Gulf Oil Corp.'s No. 1-B Bowie Lbr. Co., Sec. 69-15s-19e. Bldg. rd.

Humble O. & R. Co.'s No. 1 Caldwell Sugars, Inc., Sec. 115-14s-15e. Sd. 3,-121 ft.

Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. T.D. 11,-850 ft.; P.B. T.D. 11,810 ft.; perf. csg. 11,780-11,800 ft.; rec. 30 ft. of dist., 400 ft. drlg. mud; P.B. 11,325 ft.; perf. csg. 11,290-11,305 ft.; rec. S.W.; perf. csg. 11,270-80 ft.; 85 stands oil and S.W.; perf. csg. 8,908-18 ft.; rec. 2 jts. dist.; sqzd. perf.; perf. csg. 8,917-22 ft.; 30-min. D.S.T.; 2,800 lb. W.P.; rec. 4 jts. dist.; sqzd.; perf. csg. 8,750-60 ft.; 26-min. D.S.T. tstd. 2,200 lb. W.P.; made sqz. job; drill out cmt. to 11,280 ft.; prep. to perf. csg. 11,270-80 ft.; tstg.

Livingston Parish

Roderick Tower, Inc.'s No. 1 James Pirie, Sec. 41-7s-3e. Spd.

Orleans Parish

W. T. Burton's No. 1 L.&N.R.R., Sec. 18 11s-15e. T.D. 10,405 ft.; P.B. 10,150 ft.

W. T. Burton's No. 2 State, Lake Pontchartrain, Twp. 10s-13e. T.D. 8,075 ft.; losing returns.

Plaquemines Parish

California Co.'s No. 1 Delta Minerals Sec. 2-15s-24e. 13⅜-in. csg. 2,028 ft.; drlg. sh. 6,212 ft.

Gulf Oil Corp.'s No. 1-D Buras Lv. Dist., Sec. 6-23s-31e. 9⅝-in. csg. 8,204 ft.; 7-in. csg. 10,103 ft.; T.D. 10,138 ft.; well flwd. S.W.; S.D.

Rapides Parish

S. W. Richardson's No. 1 Hillyer-Edwards, Sec. 21-1s-3w. 10¾-in. csg. 1,-565 ft.; top Sparta sd. 7,025-78 ft.; drlg. sh. 8,959 ft.

Smith & Aarnes' No. 1 Eota Realty Co., Sec. 12-4n-3e. Drk.; abd.

St. Bernard Parish

Gulf Ref. Co.'s No. 4 State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,-161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; S.D. 10,969 ft.; rep. rig.

St. Charles Parish

R. H. Parker et al's No. 1 C. L. Thompson, Sec. 87-13s-20e. 10¾-in. csg. 2,-599 ft.; drlg. sh.&L. 7,938 ft.

St. Landry Parish

Pure Oil Co. et al's No. 1 E. M. Boagni, Sec. 41-6s-4e. 10¾-in. csg. 1,276 ft.; T.D. 9,605 ft.; abd.

St. Martin Parish

Wm. Helis' No. 1 Rycade Oil Co., Sec. 33-9s-7e. T.D. 8,899 ft.; sdtrkd. 7,393 ft.; T.D. 9,218 ft.; prep. to core ahd.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.

Joe Domingue's No. 1 Allain, Sec. 46-13s-9e. Drlg. sh. 1,610 ft.

Texas Co.'s No. 1 State, Cote Blanche Twp. 16s-7e. Cd. sdy. sh., S.S.O. 7,334-87 ft.; cg. sh.&L. 7,646 ft.

Terrebonne Parish

Barnsdall Oil Co.'s No. 1 Nelson, Sec. 2 21s-11e. 10¾-in. csg. 2,767 ft.; 8⅝-in. csg. 10,505 ft.; T.D. 11,288 ft.; sdtrkd.; drlg. sh. 10,857 ft.

Texas Co.'s No. 4 State, Coon Point, in Lake Caillou, Twp. 23s-14e. Drlg. 5,-276 ft.

Vermilion Parish

La. Ld. & Expltn Co.'s No. 1 Walter White hrs., Sec. 17-15s-1e. R.U.

Texas Co.'s No. 1 Vermilion Par. Sch. Bd., Sec. 16-13s-4e. T.D. 9,923 ft.; 7⅝-in. csg. 9,918 ft.; T.D. 10,595 ft.; P.B. 10,250 ft.; sdtrkd. 10,300 ft.; cd. S.W. sd. 10,659-79 ft.; T.D. 11,762 ft.; fsg. for sidewall sampler.

Segno—Polk County

J. K. Dorrance's No. 5-A Wing, I.&G.N. Sur. 15. T.D. 8,050 ft.; tstg.

Gulf Oil Corp.'s No. 4 Quinn, A. Morales Sur. R.U.

Gulf Oil Corp.'s No. 29 Wing, I.&G.N. Sur. 14. Cg. 8,060 ft.

Spurger—Tyler County

Republic Prod. Co.'s No. 33 fee, N. Hurd Sur. T.D. 7,710 ft.; tstg.

Republic Prod. Co.'s No. 30 Wing, I.& G.N. Sur. 15. Drlg. sh. 1,580 ft.

Hilje—Wharton County

Texas Co.'s No. 2 Peters, E.T.R.R. Sur., Sec. 101. Loc.

GULF COAST WILDCATS

Brazoria County

Glenn McCarthy's No. 1 E. W. K. Andrau, H.T.&B. Sur. 5. 10¾-in. csg. 3,-512 ft.; drlg. sh. 11,117 ft.

Glenn McCarthy's No. 2 Houston Farm Dev. Co., J. Perry & E. Austin Sur. 7. 10¾-in. csg. 3,492 ft.; drlg. sd.&sh 10,980 ft.

Glenn McCarthy's No. 1 W. B. Munson, Samuel Carter Sur. Loc.

McDannald Oil Co.'s No. 1 S. A. Hatfield, R. B. Lytle Sur. 4, Lot 51. S.D. 5,218 ft.

Phillips Pet. Co.'s No. 1 McIlvaine, A.C. H.&B. Sur., Sec. 27. Loc.

S.E.W. Oil Co.'s No. 1 C. D. Van Werdon, A.C.H.&B. Sur. 87. T.D. 6,555 ft.; abd.

Titanic Oil Co.'s No. 2 S. E. Allen, J. G. and W. McNeil Sur. R.U.

Titanic Oil Co.'s No. 1 T. J. Poole, T.&W. Alley Lge. T. salt 1,900 ft.; drlg. sh. 3,637 ft.

Chambers County

Geo. Anderson et al's No. 1 Veruna Lawrence, W. D. Smith Sur. T.D. 7,-215 ft.; S.W. sd.; 5½-in. csg. 7,215 ft.; perf. csg. 7,126-35 ft.; retstd.; rec. S.W.

Sun Oil Co.'s No. 1 Clara C. Smith, T.& N.O. Sur. 82. Loc.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferrs, H. Chrisman Sur. Loc.

Fort Bend County

H. C. Cockburn's No. 1 G. W. Burkett, Bundieck Sur. Loc.

Temple Hargrove et al's No. 1 Sugar Ld. Ind., A. Alcorn Sur. S.D. 2,900 ft.

Galveston County

Continental Oil Co.'s No. 1 Lobit-Cherardi, Perry & Austin Sur. T.D. 9,839 ft.; sdtrkd.; 7-in. csg. 9,998 ft.; T.D. 10,-490 ft.; fsg.

Standard Oil Co.'s No. 1 State, Sec. 234 10¾-in. csg. 2,001 ft.; T.D. 7,134 ft.; rmg. to straighten hole.

Standard Oil Co. of Texas' No. 61-54 State. Loc.

Sun Oil Co.'s No. 1 State, Sec. 178 13⅜-in. csg. 2,032 ft.; drlg. sh. 4,896 ft.

Harris County

Cities Service Oil Co.'s No. 1 Perry V Cook, Wm. Slayer Sur., Sec. 60. Abd 7,589 ft.

Gulf Oil Corp.'s No. 1 H. H. Roberts, A. Roberts Sur. T.D. 7,583 ft., S.D.

N. W. Hunter et al's No. 1 Green's Bayou Homesites, S. C. Hiroms Sur. 10¾-in. csg. 810 ft.; S.D. 4,350 ft.

Richard Rodgers et al's No. 1 B. G. Daugherty, W.C.R.R. Sur. Spd.

Jefferson County

Fidelity O. & Roy. Co.'s No. 1 J. J. Craigen, J. E. Broussard Sur. Drlg. sh. 7,796 ft.

Merrimac Oil Corp.'s No. 1 State, Tr. 72, 50 ft. due E of Harwell's abd. hole W.O.; R.U.

Liberty County

Hebert & Smith's No. 1 W. E. Boyt, H. &T.C.R.R. Sur. T.D. 8,834 ft.; cleaned hole to 8,096 ft.; prep. to sdtrk.

Matagorda County

Stanolind O. & G. Co.'s No. 1 General American Life Ins., J. C. Peyton Sur. Drlg. sh. 1,980 ft.

Texas Gulf Prod. Co.'s No. 1 Gulf Tex. Oil Co., Ira Ingram Sur. Drk.

Van M. Vincent's No. 1 J. F. McNabb Est., E. R. Wightman Lge. Loc.

Montgomery County

H. C. Cockburn et al's No. 1 Bender, Montgomery Co. Sch. Ld. and De Crow Sur. Loc.

Continental Oil Co.'s No. 1 Bender est., Montgomery Co. Sch. Ld. Sur. 13⅜-in. csg. 1,243 ft.; drlg. sh. 8,085 ft.

David E. MacDaniel's No. 1 Hattie O. Baldwin, Walker Co. Sch. Ld. Sur. 10¾-in. csg. 1,230 ft.; T.D. 8,900 ft., est.; D.S. stk.

Dick Schwab et al's No. 1 Foster est., De la Garza Sur. Drlg. sh. 8,006 ft.

West Conroe Oil Corp.'s No. 1 R. L. Caifee, H. N. McDillon Sur. S.D. 5,017 ft. ft.; tstd. S.W. 4,516-78 ft.

Washington County

J. A. Deering's No. 1 C. W. Bohne, S. Gates Sur. R.U.

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. S.D. 4,864 ft.

Wharton County

Cockburn Oil Corp.'s No. 1 Leverage, Jonathan Scott Sur. Loc.

O. C. Garvey's No. 1 T. N. Menefee, S. P. Middleton Sur. R.U.

O. C. Garvey et al's No. 1 Stockton, S. P. Middleton Sur. T.D. 4,592 ft.; abd.

Sam Harrison's No. 1 Nell Carlson, Morris & Cummins Sur. T.D. 6,510 ft.; abd.

Mackhank Oil Co.'s No. 1 F. W. Wilson, E.T.R.R. Sur. 101. Spd.

Magnolia Pet. Co.'s No. 1 C. Swanson, E.T.R.R. 39. 10¾-in. csg. 248 ft.; drlg. sh. 5,248 ft.

Dr. T. M. Neal No. 1 fee, Elisha Flack 4,840 ft.

Strake Pet. Corp.'s No. 1 Poole, Sec. 25, G.H.&H. Sur. Drlg. sh. 8,825 ft.

S. W. TEXAS WILDCATS

Aransas County

Continental Oil Co.'s No. 1 St. Charles Co., R. D. Blassman Sur. 18⅝-in. csg. 290 ft.; T.D. 9,335 ft.; well blew out; caught fire; fire out; well still blowing.

Continental Oil Co.'s No. 2 St. Charles Co., R. D. Blassmar Sur.; (relief well to blow out). R.U.

Atascosa County

John Durst's No. 1 Wright, Edw. Morris Sur. Drlg. 986 ft.

Red Bank Oil Co. et al's No. 1 J. P. Pratt, Francisco de La Garza Sur. 46. 7-in. csg. 2,347 ft.; set 5½-in. lnr. 3,-074 ft.; prep. to test.

Bastrop County

C. R. Franklin's No. 1 Oscar McDonald, Martha Baker Sur. Drlg. 1,720 ft.

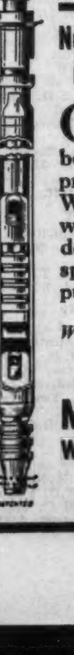
Bee County

Bunte Bros., Inc.'s No. 1 J. T. Earnest, Bee Co. Sch. Ld. Sur. Drlg. sh. 6,660 ft.; 7-in. csg. 5,973 ft.

Mills Bennett Prod. Co. and Anderson-Prichard Oil Co.'s No. 2 Robinson, J. M.

LEGAL

Department of the Interior, United States Land Office, Las Cruces, New Mexico. Notice is hereby given that a lease of the oil and gas deposits in the NE¼ SW¼, SW¼ SW¼, NW¼ SE¼, and E½ SE¼ Sec. 35, T. 17 S., R. 27 E., N.M. P.M., New Mexico, containing 200 acres, in the Empire Oil and Gas Field, is offered to the responsible qualified bidder of the highest bonus per acre pursuant to the provisions of section 17 of the leasing act of February 25, 1920 (41 Stat. 437), as amended, at the royalty rate scale in the lease form shown in General Land Office Circular 1386, at a sale to be held in the office of the Register of the District Land Office at Las Cruces, New Mexico, at 10 o'clock A. M. on April 3, 1940. The successful bidder must deposit on the date of sale a certified check on a solvent bank, or cash, for 1/5 of the amount of the bid, and file a showing of qualifications to receive the lease required by section 7 of Circular 1386. The remaining 4/5, together with the annual rental in advance at the rate of $1 per acre, must be paid and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register. Paul A. Roach, Register.



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Nearly 100,000 Working Barrels in Use

OUR working barrels have been continually improved for 30 years. We have worked with producers in developing many special features for pumping.

We will be glad to try to help you out of your difficulties.

McGREGOR WORKING BARREL COMPANY

Bradford, Pa., U.S.A.

TEXAS

Week Ended March 2

GULF COAST FIELDS

Anchor—Brazoria County

Humble O. & R. Co.'s No. 1 R. H. Carr, Blk. 62. 9⅝-in. csg. 6,950 ft.; drlg. sd. 10,028 ft.

Humble O. & R. Co.'s No. 1 Crockett, J. de Jesus Valderas Sur. 13⅜-in. csg.; drlg. sh. 9,641 ft.

Humble O. & R. Co.'s No. 1 Galznik & Taylor, J. de Jesus Valderas Sur. 9⅝-in. csg. 6,953 ft.; drlg. sh. 10,781 ft.

Humble O. & R. Co.'s No. 1 Heim & Holland. S. Marsh Sur. Loc.

Glenn McCarthy's No. 1 Gelaznik, Valderas Sur. Drlg. sh. 10,302 ft.

Glenn McCarthy's No. 1 Neidringhaus, J. Bradley Sur. 13⅜-in. csg. 926 ft.; drlg. sh. 9,594 ft.

Glenn McCarthy's No. 1 Kate and Laura Yocum, J. D. Valderas Sur. Drlg. 2,-020 ft.

Sun Oil Co.'s No. 1 Morris Stern, Shubal Marsh Sur. 18⅝-in. csg. 128 ft.; drlg. sh. 2,730 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie's No. 8 Armstrong, Polly & Chance Sur. Drlg. sd. &sh. 9,510 ft.

Harrison & Abercrombie's No. 7 Bernard River Ld. Dev. Co., C. Breen Sur. Drlg. sh.&sd. 10,120 ft.

Harrison-Abercrombie's No. 3 Larsen, C. Breen Sur. Drlg. sh.&L. 10,393 ft.

Stanolind O. & G. Co.'s No. 1 Hughes, C. Breen Sur. R.U.

Sun Oil Co.'s No. 4 McCampbell, C. Breen Sur. 13⅜-in. csg. 1,505 ft.; 9⅝-in. csg. 7,010 ft.; drlg. sh. 10,054 ft.

Seabreeze—Chambers County

Sun Oil Co.'s No. 1 Samuelson & Whitney, T.&N.O. Sur. 131. Cored sd., oil odor 8,417-18 ft. and 8,422-23 ft.; T.D. 8,587 ft.; sdtrkd.; cg. sh. 8,430 ft.

Big Creek—Fort Bend County

Merrimac Oil Corp.'s No. 1 George, B Wickson Sur. (SW flank). Spd. and S.D.

Rosenberg—Fort Bend County

Humble O. & R. Co.'s No. 1 R. Kroesche, H.&T.C. Sur. Drk.

Humble O. & R. Co.'s No. 1 Skripka, C. N. Simpson Sur. T.D. 8,499 ft.; 7-in. csg. 8,327 ft.; flwg. gas and W.W.; C.O.

Caplen—Galveston County

Sun Oil Co.'s No. 1-26 State, S. F. Hughes Sur. Sdtrkd.; drlg. sh.&L. 7,139 ft.

Sun Oil Co.'s No. 2-26 State, S. F. Hughes Sur. Loc.

Sun Oil Co.'s No. 3 Zinn-Forman Sur. 13⅜-in. csg. 100 ft.; drlg. sd. 7,500 ft.

League City—Galveston County

Phillips Pet. Co. No. 1 Dr. O. Patton (1 mi. E of production). Perf. csg. 9,177-97 ft.; flwd. S.W.; sqzd. perf.; C.O.

Phillips Pet. Co.'s No. 4 Stewart Title Guaranty Co., S. F. Austin Sur. 10¾-in. csg. 3,520 ft.; 7⅝-in. csg. 9,510 ft.; T.D. 11,270 ft.; well blew out; killed; rng. reversing tool 8,900 ft.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 28-C West, Wm. Dobie Sur. T.D. 5,845 ft.; W.O.C.

Humble O. & R. Co.'s No. 34-C West, S. Murphy Sur. T.D. 5,842 ft.; W.O.C.

Friendswood—Harris County

Humble O. & R. Co.'s No. 3 Moore, A. Whitlock Sur. T.D. 6,047 ft.; tstg.

Fannett—Jefferson County

Gulf Oil Corp.'s No. 3 Bordages, J. Probarth Sur. Drlg. L. rk. 6,980 ft.

Lovells Lake—Jefferson County

Humble O. & R. Co.'s No. 19 Broussard, C. Hillebrandt Sur. T.D. 7,675 ft.; W. O.C.

Humble O. & R. Co.'s No. 4-B Steinhagen, Wm. Carr Sur. 5½-in. csg. 7,792 ft.; T.D. 7,810 ft.; perf. csg. 7,722-23 ft.; tstg.

North Cheek—Jefferson County

Strake Pet., Inc.'s No. 1 J. H. Phelan, S. Stivers Sur. Drlg. 2,630 ft.

Strake Pet., Inc.'s No. 1 Pipkin, H.T.&B. Sur. 15. Loc.

South China—Jefferson County

J. K. Hughes Oil Co.'s No. 1-C Guiterman, C. T. Taylor Sur. 12. R.U.

Magnolia Pet. Co.'s No. 1 B. E. Quinn, H.T.&B. Sur. 13. T.D. 7,902 ft.; abd.

Titanic Oil Co.'s No. 2-B Broussard, S. Miles Sur. Drlg. sh. 4,120 ft.

Titanic Oil Co.'s No. 2-B Guiterman, C. T. Taylor Sur. 12. 10¾-in. csg. 955 ft.

Esperson—Liberty County

General Crude Oil Co.'s No. 9 Davis, D Kokernot Sur. T.D. 8,314 ft.; well blew out, caught fire, cratered.

General Crude Oil Co.'s No. 20 Davis, A. McNeil Sur. Drlg. sh. 6,067 ft.

General Crude Oil Co.'s No. 11-B Esperson, Drlg. sh. 6,136 ft.

Martha—Liberty County

Stanolind O. & G. Co.'s No. 1 Garrow, I.&G.N.R.R. Sur. 7. Loc.

Stanolind O. & G. Co.'s No. 1 J. D. Ross, I.&G.N. Sur. 7. T.D. 8,164 ft.; 5½-in. csg. 8,160 ft.; perf. csg. 8,135-40 ft.; flwd. oil and S.W.

Uranga Sur. (Wlx. test, West Tuleta field). 13⅜-in. csg. 2,537 ft.; T.D. 7,812 ft.; 9⅝-in. csg. 7,804 ft.

Union Prod. Co.'s No. 56 Ray, T. Hanson Sur.; (Pettus field). Wlx. test; 10¾-in. csg. 4,856 ft.; drlg. sh.&L. 7,345 ft.

Bell County

J. J. Cormas' No. 1 Jeff Ellis, Elizabeth Berry Sur. S.D. 150 ft.

Bexar County

Edwin Eckert et al's No. 1 Ed L. Gembler, Wm. Small Sur. Drlg. sh. 520 ft.

Joe Noake's No. 1 San Antonio Sub. Irrg. Farm, W. Miller Sur. 180. S.D. 250 ft.

Philtop O. & G. Co.'s No. 2-A Patton, Fernando Rodriguez Sur. T.D. 1,946 ft.

L. L. Skaggs' No. 2 Braubach, F. Rodriguez Sur. S.D. 602 ft.

J. A. Tarver's No. 1 Florence Lam, Manuel de Luna Sur. 3. 6⅝-in. csg. 1,205 ft.; T.D. 1,692 ft.; cd. bkn. sh. 1,638-92 ft.; S.S.O.; bailed est. 10 bbl. oil P.D. before sanding up; S.D.

J. A. Tarver et al's No. 1 Joseph Leonard, Manuel de Luna Sur. 3. Drlg. 996 ft.

Blanco County

E. L. Nixon's No. 3 Crist, John McClenchen Sur. 94 Drlg. 1,300 ft.

Burleson County

H. Y. Barnett's No. 1 Giesenschlag, J W. Hollingswbrth Sur. Cg. 1,530 ft.

Caldwell County

Kean & Williamson's No. 1 E. E. Rector, J. Roberts Sur. S.D. 300 ft.

Calhoun County

Coronado Corp. No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. "Tight well"; reported to be tstg.; 5½-in. csg. 9,750 ft.; perf. csg. 9,500-9,600-9,700 ft.; rec. S.W.; made sqz. job at 8,580 ft.

Ray-Ranger et al's No. 1 W. W. Wilson, V. Garcia Sur. Loc.

Cameron County

Sal Vieja Oil Co. et al's No. 1 Garcia, Santa Isabel gr. R.U.

De Witt County

Atlantic Ref. Co.'s No. 1 Pearl Conwell Chas. Lockhart Sur. S.D. for repairs 7,908 ft.

I. K. Howeth et al's No. 1 Keepers, Antonio Lazo Sur. T.D. 4,432 ft.; abd.

Duval County

Alaska-Tex Oil Corp.'s No. 1 W. P. Peters, B.S.&F. Sur. 791. S.D. 2,939 ft.

G. W. Basom's No. 1 Henry Adami, J. H. Gibson Sur. 341. R.U.

J. B. Blanchard et al's No. 1 W. L. Rogers, J. Poittevent Sur. Drlg. 100 ft.

W. L. Catlin et al No. 1 Louis Escapule, J. Poittevent Sur. 73. R.U.

Landreth Prod. Co.'s No. 1-A C. M. Robinson, Paul Henry Sur. 116. R.U.

P. R. Rutherford's No. 1 Clara Driscoll, U. Lott Sur. 243. R.U.

Standard Oil Co. of Texas' No. 1 Rodriguez, San Pedro de Charco Redondo gr. 7-in. csg. 5,691 ft.; T.D. 6,838 ft.

Falls County

J. Shaunfield's No. 1 Barganier, J. M. Graham Sur. Bda. L.; S.S.O.; T.D. 1,188 ft.; recmtd. csg.; W.O.; cmt. failed to hold.

Frio County

Holland Oil Co.'s No. 1 Anna Witting. Dan T. Price Sur. T. clk. 4,750 ft.; T.D. 5,314 ft.; Edw. L.; abd.

Gonzales County

M. T. Huebner's No. 1 M. P. Smith, R. Plummer Sur. T.D. 1,135 ft.

Guadalupe County

Diamond Half Oil Corp.'s No. 1 W. J. Strey, Josefan de los Cortinos Sur. 49. T.D. 800 ft.; 5½-in. csg. 753 ft.; swbg.

C. E. Euton et al's No. 1 Volkman est., W. J. C. Wilson Sur. 59. Drlg. 56 ft.

A. J. Hollifield's No. 1 A. J. Day, Jas. Hinds Sur. T.D. 2,837 ft.; 7-in. csg. 2,357 ft.; P.B. 2,692 ft.; swbd. sulf. wtr., S.S.O.; P.B. 2,415 ft.; tstg.

Knute Evjen et al's No. 1 W. C. Brawner, J. D. Pickens Sur. S.D. 2,394 ft. 5½-in. csg. 2,300 ft.; reacd.

F. W. Nute's No. 1 M. T. Howell, Jacob Darst Sur. T.D. 2,616 ft.

F. D. Spratt's No. 1 Wm. Zuchl, Claborne Rector Sur. 38. S.D. 710 ft.

Wellington Oil Co.'s No. 1 R. L. Beaty, H.&T.C. Sur. Drlg. 2,430 ft.

Hidalgo County

Gulf State Oil Co.'s No. 2 Cardinas, San Salvador del Tule gr. 16-in. csg. 157 ft. drlg. sd. 8,150 ft.

Humble O. & R. Co.'s No. 1 T. A. Ogg, Rio Bravo subd. Drlg. sd. 8,279 ft.

Jim Hogg County

Humble O. & R. Co.'s No. 3 C. T. Mestena O. & G. Co., San Antonio de Baluarte gr. Drlg. sh. 2,734 ft.

Locke Purnell's No. 1 Sarita, Sur. 619. 10-in. csg. 76 ft.; T.D. 3,260 ft.; abd.

C. A. Nibert et al's No. 1, Yeager Sur. 20. T.D. 2,240 ft.; abd.

Sun Oil Co.'s No. 2 East. A.B.&M. Sur. 39. Cg. 3,000 ft.

Jim Wells County

Rodney DeLange's No. 1-A McNeil, Benito Lopez de Jaen Sur. T.D. 4,930 ft.; D.S.T. 4,915-30 ft.; rec. 20 ft. oil; 5½-in. csg. 4,930 ft.; perf. csg. 4,923-28 ft.; I.P. 190 B.P.D.; ¼-in. ck.

Henshaw Bros. et al's No. 1 Gaither, Los Presnos de Arriba gr. Drlg. sh. 3,360 ft.

H. H. Howell's No. 1 G. H. Bierstedt, I. &G.N.R.R. Sur. 501. R.U.

Reese, Dunn & Tseamelis No. 1 Perez, Manuel Barrera gr. T.D. 5,510 ft.; 5½-in. csg. 3,384 ft.

Texas Gulf Prod. Co.'s No. 1 Gallagher, Blk. 16, J. H. Gallagher subd. Loc.

Karnes County

Clyde Eckols' No. 1 J. M. Newberry, Carlos Martinez Sur. 5½-in. csg. 3,002 ft.; T.D. 3,008 ft.; perf. csg. 2,942-49 ft.; swbg.

R. W. Ford and Crown Central Pet. Corp.'s No. 1 Ed Jendrusch, Erasmo Seguin Sur. Loc.

Kendall County

C. M. Dewey's No. 2 Seidensticker, R. Davis Sur. No. 20. S.D. 835 ft.

Kimble County

Austin Bridge Co.'s No. 1 Wilkinson, Brooks & Burleson Sur. S.D. 25 ft.

J. C. Renfro's No. 1 D. C. Morales, Hrs. of H. Grote, Sur. 423. Drlg. 20 ft.

Schwab-Carlyle & Auld's No. 1 Baker, F. C. Stisser Sur. 417. Spudded.

Kinney County

Cooper Gas Co.'s No. 1 L. L. Farr, Geo. L. Bledsoe Sur. 835. T.D. 1,670 ft.

Kleberg County

Humble O. & R. Co.'s No. 1 O. J. Mork, Rincon de Santa Gertrudis gr. Drlg. sh. 6,620 ft.

Skelly Oil Co.'s No. 1 State, Laguna de Los Olmos gr., Tr. 385. Driving piling.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. T. Glen Rose L. 6,600 ft.; drlg. sdy. L. 7,428 ft.; no report.

Live Oak County

Hagan & Stewart Drlg. Co.'s No. 2 Reagan, M. Hely Sur. 5. R.U.

Humphries & Hotchkin's No. 1 South Texas Natl. Bnk., E. M. Adams Sur. Drlg. sh. 1,670 ft.

E M. Jones' No. 1 West, Lot 400, Blk. D, of West subd. Drlg. sh. 6,600 ft.

Pocono Dev. Co.'s No. 1 San Antonio Joint Stock Ld. Bnk., Richard Everett Sur. 1. R.U.

W. R. Quinn et al's No. 1 Stolze, J. F. Huizar Sur. 31. Spd.

L. W. Stieren's No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

Gorman & Yoakum's No. 1 Nueces Ld. & Livestock, I.&G.N. Sur. 1. Loc.

F. H. Gohlke's No. 3 Miles, Wm. Kohfler Sur. 78. S.D. 410 ft.

Purvis & Appell's No. 1 Nueces Ld. & Livestock Co., R. E. Halter Sur. 26. Drlg. 1,026 ft.

C. D. Scarborough No. 1 First Natl. Bk. of Rosebud, Jas. Garner Sur. S.D. 1,955 ft.

Medina County

T. J. Tapp's No. 1 Bendele, F. Sauer Sur. 117. S.D. 205 ft.

York Pet Co.'s No. 1 Kate Smith, Marie Ihnken Sur. 11. T.D. 950 ft.; 5½-in. cg. 690 ft.; swbd. small amt. of oil.

Milam County

Fritz Fuchs' No. 1 Unnasch, Jose Justo Liendo Sur. Drlg. 1,216 ft.

Nueces County

Houser-Warren & Ginther's No. 1 Lynn Davis, Palo Alto gr. Drlg. sdy. sh. 3,796 ft.

John Manley et al's No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc

Refugio County

Norsworthy Prod. Co.'s No. 1 Wood. John Sinnott Sur. T.D. 6,508 ft. (cor.). S.D.

San Patricio County

Fred Wood et al's No. 1 C. E. Hart. Wm G. Burgess Sur. 5½-in. csg. 7,250 ft.; prep. to test; tstd. S.W. 6,910-13 ft.; retstg.

Starr County

Hebert Aid's No. 1 Camilo Garza, J. J. Gutierrez Porc. 72. T.D. 882 ft.

Interstate Minerals, Inc.'s No. 1 Green & Manning, J. J. Garza Falcon Porc. 81. T.D. 1,732 ft.; 7-in. csg. 1,155 ft.; S.D.

Lynes & Robertson's No. 1 Villareal, C. C.S.D.&R.G.N.G.R.R. Sur. 241. Loc.

Sun Oil Co.'s No. 1 W. G. Lehr, C.C.S.D. R.G.N.G.R.R. Sur. Loc.

Sun Oil Co.'s No. 1 Rodriguez, Santa Teresa gr. Drlg. sh. 6,220 ft.

W. W. Zimmerman's No. 1 B. D. Wood, V. Vela Porc. 84. Drlg. 50 ft.

Travis County

O. L. Patton's No. 1 I. P. Jones, Rueben Hornsby Sur. 17. Drlg. 55 ft.

L. M. White et al's No. 1 P. C. Wells, J. Harper Sur. 42. T.D. 1,205 ft.; run 7-in. csg.

Val Verde County

Joiner Oil Co. et al's No. 1 Clyde Sellers. Drlg. bkn. L. 1,678 ft.; no report.

Victoria County

Colton & Colton's No. 1 W. C. Buckholts, F. G. Hidalgo Sur., Lot 27. 10¾-in. csg. 710 ft.; S.D. 5,400 ft.; 5½-in. csg. 2,580 ft.

Mayo and Renwar Oil Co.'s No. 1 Bayer, Garcia Sur. T.D. 6,485 ft.; 7-in. csg. 6,333 ft.; rec. S.W. 5,688-91 ft. and 5,780-85 ft.; prep. to D.D.

Mayo, Thompson Drlg. Co.'s No. 1 Ragsdale, V. Garcia Sur. S.D. 5,375 ft.; D. S. stk.; abd.

L. L. Smith's No. 1 Carolina Stubbs est., R. Manchola Sur. T.D. 4,813 ft.; abd.

Webb County

O. W. Killam's No. 64 Bruni, M. H. Rodriquez Sur. 446. T.D. 1,879 ft.; 5½-in. csg. 1,830 ft.; perf. csg. 1,802-06 ft.; tstg. gas, small amt. oil, and wtr.

Mayfair Oil Corp.'s No. 1 A. M. Bruni, M.H. Rodriguez Sur. 446. 10¾-in. csg. 20 ft.; T.D. 1,852 ft.; 5½-in. csg. 1,852 ft. flwd. S.W.; small amt. of oil; abd.

V. G. Schimmel's No. 1 Volpe, Mary H. Pennell Sur. 698. Drk.

Sinclair Prairie Oil Co.'s No. 1 Callaghan Ld. & Cattle Co., B.S.&F. Sur. 585. 13⅜-in. csg. 1,598 ft.; drlg. sh. 3,992 ft.

Tide Water Asso. Oil Co. No. 7 Bruni, Blk. 7, M. Ariape gr. (deep test Bruni field), T.D. 8,959 ft.; well blew out; hole bridged; stk. D.S.; prep. to P.B and test approx. 5,600 ft.; perf. D.P. 5,636-45 ft. and 5,621-31 ft.; tstd. dry; sqzd. off; perf. csg. 5,620-30 ft.; tstd. 4 B.O.P.D.; 2,000,000 cu. ft. gas; ¼-in ck.; T.P. 150 lb.; 350 lb. on D.S.; well went dead.

Williamson County

H. C. Lefors' No. 1 H. J. Priesmeyer, Jehu Bevil Sur. 56. S.D. 1,107 ft.

Wilson County

Henshaw Bros.' No. 1 E. W. Schneider, Don Casper Flores Sur. 10-in. csg. 99 ft.; T.D. 2,692 ft.; fsg.

W. D. Moore et al's No. 1 Lorenz, Morris May Sur. S.D. 75 ft.

E. E. Young's No. 1 O. D. McMeans, C. W. Parrott Sur. R.U.

Zapata County

J. P. Martin et al's No. 1 Serapio Vela, El Grullo gr. T.D. 3,108 ft.; sdtrkd.; T.D. 3,505 ft.; fsg.

WEST TEXAS WILDCATS

Andrews County

Richmond Drlg. Co. and T. F. Hunter's No. 1 University, 660 ft. N and E lines of Sec. 21, Blk. 11, University Sur. D.P. stk. 5,172 ft.

Concho County

Charter O. & G. Co.'s No. 1 T. Y. Hill, SW part of Julius Frederick Sur. 1693, Abst. 198. M.I.M.

Crane County

Gulf Oil Corp.'s No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. 6,151 ft.

Gulf Oil Corp.'s No. 1-K University, 330 ft. N and E lines, Sec. 2, Blk. 31, University Sur. Drlg. 365 ft.

Gulf Oil Corp.'s No. 12 Waddell, Sec. 30, Blk. 26-B, P.S.L. Sur. 12-in. 532 ft S.O. 3,215-20 ft.; S.S.G. 3,635 ft.; C.O. 3,763 ft.; 8-in. csg. cmtd. at 3,713 ft.

Crockett County

Continental Oil Co.'s No. 2 Todd, 1,980 ft. S and W lines of Sec. 29, Blk. W. X, G.C.&S.F. Sur. Skd. rig W; drlg. 1,540 ft.

Soma O. & G. Synd.'s No. 1 W. T. Noelke, NW part Sec. 30, Blk. GG, H. E.&W.T. Sur. Loc.

Ector County

Ralph R. Gill's No. 1 Parker, SE¼ Sec. 12, Blk. 45, T-2-S, T.&P. Sur.; deep Holt-horizon test. Drlg. 3,150 ft.

M. A. Grisham et al's No. 1 R. B. Cowden, 600 ft. from N and E lines, Sec. 4, Blk. 45, Twp. 1n (deep test), T.&P. R.R. Sur. Drlg. 4,470 ft.

Landreth Prod. Corp. and Shell Oil Co., Inc.'s No. 1 J. L. Johnson, Sec. 43, Blk. 43, Twp. 1s, T.&P. Sur. Swbd. 21 B.O. 14 hrs. after acd. at 4,264-76 ft.; test est. 800 ft. O.I.H.; cg. 5,268 ft.; abandonment probable; no production in Holt horizon.

Landreth Prod. Corp.'s No. 1 T.X.L., NW cor. Sec. 3, Blk. 43, T-1-S, T.&P. Sur.; deep Holt-horizon test. Prepg. to dpn. from regular pay zone to deep level; drlg. 4,930 ft.

Richmond Drlg. Co. and Rhodes & Tompkins' No. 1 J. L. Johnson, NW cor. Sec. 25, Blk. 43, T-1-S, T.&P. Sur.; deep Holt-horizon test. Drlg. 3,960 ft.

Stanolind O. & G. Co.'s No. 1 W. F. Cowden, SW¼ Sec. 4, Blk. 43, Twp. 1n, T.&P. Sur.; deep-lime test. T. Yates sd. 2,790 ft.; T. Clearfork 5,142 ft.; bailed 68 gal. oil in 15 hrs.; P.B. 5,215 ft.; P.O.P.; swbd. 38 B.O. in 15½ hrs.

Western & Southern Oil Co.'s No. 1 Smith, NW cor. Sec. 6, Blk. 42, T-1-S, T.&P. Sur.; deep Holt-horizon test. Drlg. 3,450 ft.

Gaines County

Stanolind O. & G. Co.'s No. 1 T. S. Riley, Sec. 11, Blk. H, D.&W. Sur. Shot 4,762-4,964 ft.; C.O.; bailed 1 bbl. hourly before shot; T.D. 4,964 ft.; swbd. 10 B.O. in 3 hrs.; bailed dry and bailed 10 B.W. in 9 hrs.; pulling R.&T. 4,869 ft.

Hockley County

Denver Prod. & Refg. Co. and Helmerich & Payne, Inc.'s No. 1 Whiteface Farms, 660 ft. from S and E lines Labor 22, Lge. 77, Reeves C.S.L. Sur. Had 72 ft. of sat.; drld. plug and found no shows; drlg. below 4,732 ft.

Irion County

W. S. Kelly's No. 1 Yates, Conrad Poppe Sur. 730. S.D.O. 345 ft.

Loving County

J. E. Whiteaides' No. 1 fee, Sec. 24, Blk. 76. Prep. run 10-in. 1,132 ft.; S.S.O.; drlg. 2,480 ft.

Lynn County

Guthrie Lake Oil Co.'s No. 1 Mary L. Shoe, Sec. 20, Blk. 8, E.L.R.R. Sur.; 800-ft. test. Drlg. 590 ft.

H. F. Wilcox Oil & Gas Co.'s No. 1 E. L. Powell, 330 ft. from W and 990 ft. from S lines Sec. 134, Blk. 12, E.L. Sur. Drlg. 4,812 ft.

Mitchell County

Ewing & Hanes' No. 1 G. I. Grable, Sec. 195, Blk. 3, H.&G.N. Sur.; 1,800-ft. test. No report 275 ft.

N. V. Hilburn's No. 1 E. T. Strain, Sec. 82, Blk. 97, H.&T.C. Sur. S.D. csg. 495 ft.

Pecos County

Humble O. & R. Co.'s No. 1 Young, Sec. 33, Blk. 10, H.&G.N. Sur. Top detrital 5,185 ft.; T.D. 5,421 ft.; still in detrital zone.

B. McCandless and General Crude Oil Co.'s No. 1 Virginia W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. T. Ellenburger 4,401 ft.; tstg. est. 6,000,000 cu. ft. gas after acd.; rng. tbg.; T.D. 4,479 ft. est. 4,000,000 cu. ft. gas and 365 B.O. P.D.; made 531 B.O. in 5 hrs.; S.I.

Skelly Oil Co.'s No. 1 J. S. Masterson (Ordovician test), Sec. 101, Blk. 10, H. &G.N. Sur. Topped Ellenburger 44 ft. high; flwd. 32 B.O.P.H.; made 518 B. O. in 10 hrs.; S.I. 5,614 ft.

R. L. Walker's No. 1 White & Baker, Sec. 86, Blk. 194, G.C.&S.F. Sur. Drlg. 728 ft.

Reeves County

T.A.T. Oil Co.'s No. 1 U. G. Orenderff, Sec. 10, Blk. 59, P.S.L. Sur. S.D.O. 1,901 ft.

Scurry County

Coffield & Guthrie's No. 1 Reiter, Sec. 155, Blk. 97, A.T.&T.C. Sur. S.D.; W.O. 3,500 ft.

Stonewall County

Shell Oil Co., Inc.'s No. 1 Smith, Sec. 143, Blk. 1, H.&T.C. Sur. Drlg. 5,286 ft.

Terry County

Tide Water Asso. Oil Co.'s No. 1 Lowe, SW part Sec. 3, Blk. 37-C, P.S.L. Sur. Loc.

Tom Green County

B. C. Mann's No. 1 Joe Funk, 330 ft. N, 1,650 ft. E lines, Sec. 34, Blk. 5, H.& T.C. Sur. Drlg. 855 ft.

Dan Short's No. 1 J. G. Davidson, 2,161 ft. from SL, 2,493 ft. from NW cor. L. P. Moore Sur. S.S.O.&G. 2,660-65 ft.; drlg. 3,255 ft.

Ward County

Gulf Oil Corp.'s No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. 4,833 ft.

Kenneth Slack's No. 1 Bird Hayes, Sec. 148, Blk. 34, H.&T.C. Sur. Fsg. 4,262 ft.

Yoakum County

Sloan & Zook and T. N. Sloan's No. 1 J. E. Fitzerald, Sec. 22, Blk. D, Gibson Sur., extreme NE cor. of county. 7-in. csg. 4,812 ft.; T.D. 5,658 ft.; prep. D.D.

TEXAS PANHANDLE

Deaf Smith County

Uscan's No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. C.O. 5,650 ft.

Lipscomb County

Phil O'Neil's No. 1 Jacob Koch, NW SW Sec. 539, T.&T.C.R.R. Sur. S.D. 1,100 ft.

Ochiltree County

James R. Macon et al's No. 1 W. R. Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. T.D. 6,274 ft.; test sec. at 5,000 ft.; est. 6,000,000 cu. ft. gas on D.S.T.; tstg.; bailing 6,274 ft.; unloaded csg. at well and preparing to test increasing shows of oil and gas; S.D.W.O. 6,274 ft.

Potter County

Canadian River Gas Co.'s No. 1 City of Amarillo, in city limits just north of city. R.U.S.T. 3,475 ft.

Lee Whitaker's No. 1 D. Pavliard, Sec. 101, Blk. 2, A.B.&M. Sur. Fish out; S.D. 915 ft., csg.

Sherman County

I. T. I. O. Co.'s No. 1 S. C. Bryant, C NW¼ Sec. 369, Blk. T-1, T.&N.O. Sur. S.D.W.O. 2,739 ft.

E. C. TEXAS WILDCATS

Anderson County

R. H. Williamson's No. 1 O. G. Rogers, Wm. Greenwood Sur., 6 mi. SW of Elkhart. Had gas blowout 4,380-90 ft.; flow of 14,000,000 cu. ft.; attempting to kill gas.

Angelina County

Ginter Bros.' No. 7 Capes hrs., J. Morris

Sur., 3 mi. E of Dibol. Washing to bttm. 2,148 ft.

Camp County

W. C. McGlothlin's No. 1 Venters, S. Wright Sur., 3 mi. SE Leesburg. R.U. to D.D. to Pett. zone; drlg. 7,725 ft.

Cherokee County

C. C. Lanier's No. 1 W. O. Reagan, W. T. Smith Sur., 2½ mi. E of Mixon. Drk.

R. D. Salisbury No. 1 W. M. Shankle, J. A. Manchaca Sur., 1½ mi. NE Chilton. P.B. 1,103 ft.; S.D.; W.O.

Fannin County

C. Newburn's No. 1 A. G. Allen, M. Caldwell Sur., 7 mi. NE of Banham. Laying wtr. lines.

Henderson County

W. R. Manning's No. 1 Rowe & Baker, J. T. Childers Sur., 6 mi. SW Mabank. Drlg. 2,550 ft.

Hill County

Carter-Bowland's No. 1 J. J. Atchison estate, E. Carroll Sur., 5 mi. W of Hillsboro. S.D. 85 ft.

Houston County

J. C. Wynne et al's (Shell Oil Co., Inc.) No. 1 G. E. Dorsey, M. Salles Sur., 2½ mi. S of Percilla; E 102 ac. of tr.; 10,000-ft. test. D.S.T. 8,541-76 ft.; rec. mud cut with gas and oil; taking sidewall cores below 10,000 ft.; contract depth of 10,900 ft. completed; no shows of oil below Glen Rose.

Kaufman County

W. H. McGee's No. 1 Rutland Savings Bk., John Baker Sur., 2¼ mi. NE of Tulosa. R.U.

T. G. Shaw, Tr.'s No. 1 Angus Wynne, B. S. Newman Sur., 8 mi. E Kaufman: lower Trinity test. Drlg. 1,500 ft.

Limestone County

Peyton Bros.' No. 1 Harris, P. Varella Sur. P.B. to 4,495 ft.; fsg. 4,994 ft.

Murray Samuell and Zephyr Oil Co.'s No. 2 Cannon Barron, NE part of 330-acre tract in W. G. McKenzie Sur, half mile NE of pool opener. T. Pett. 5,594 ft.; T.D. 5,705 ft.; making 2,800,000 cu. ft. gas, 2 bbl. dist.; tstg. 5,719 ft.

J. J. Tyrell's No. 1 A. G. Easterling, J. L. Chavert Sur., 11 mi. E of Groesbeck. Drlg. 4,020 ft.

Zephyr Oil Co.'s No. 3 C. Peeples, R. Scott Sur., 2 mi. SW of Tehuacana. Drlg. 2,235 ft.

McLennan County

T. M. Smart's No. 1 J. W. Mann, C. O'Campo Sur., 4 mi. S of Waco. S.D. 1,327 ft.

Nacogdoches County

Melrose Oil Co.'s No. 2 C. N. Wilson, Hall & Mora Sur., 300 ft. SE of No. 1 Wilson abd. at 2,100 ft. in Jan. Loc.

Navarro County

C. F. Carter's No. 1 Allen Eden, M. Shire Sur., 2 mi. NE of Angus. S.D. 1,201 ft.

Guy Sitton's No. 2 R. D. Fleming, John Harris Sur., 450 ft. E of No. 1 dry hole. Bailed slight show oil and S.D. for test at 1,625 ft.

W. H. Warren's No. 1 L. Grey, E. Powers Sur., 9 mi. SE of Kerems. S.D. 660 ft.; T.D.

Red River County

Dave Flesch's No. 1 Bailey, J. Robbins Sur., 1 mi. W of Bagwell. S.D. 3,415 ft.

Kansas-Oklahoma Pet. Corp.'s No. 1 R. H. Ringwald, A. Moore Sur., 3 mi. W of Manchester. S.D. 1,000 ft.

Robertson County

Rhett Wilder's No. 1 Moise Cerf, J. Erwin Sur., 7 mi. S of Franklin. S.D. 40 ft.

Rusk County

Jeff Bolton's No. 1 Hall Wood, J. I Sanches Sur., 2½ mi. NW of New Salem. Lost circ. and skd. rig to start new hole; T. Wdbne. with sat. at 4,145 ft.; S.S.O. 4,201 ft.; S.D. to test.

A. O. Whittington's No. 1 Kangergs Bros., Ign. Castro Sur., 9½ mi. N and slightly E of Pirtle. S.D. 80 ft.

Smith County

Sun Oil Co.'s No. 1 E. B. Huddle, Wm Dickerson Sur., 2 mi. S of discovery dist. producer in Chapel Hill area; third D.S.T. failed; may test again or may P.B. to Glen Rose L.; sat. drld. from 7,983-8,019 ft., T.D.

Trinity County

Davis & Co.'s No. 1 Texas Long Leaf Lbr. Co., A. Henry Sur., 5 mi. S of Loveland. Drlg. 1,935 ft.

Gossage et al's No. 1 First Natl. Bnk., B. F. Wright Sur., S of Trinity. R.U. and S.D.

EAST TEXAS

(Border Counties)

Bowie County

W. E. Niell's No. 1 Lewis Fort, 600 ft. NL, 150 ft. EL, 103-ac. tr., L. Peters Sur. S.D. 960 ft.

Harrison County

J. A. Hughes' No. 1 Taylor, H. McNutt Sur. Blg. 2,612 ft.

Marion County—Other

R. W. Cosby's No. 1 Stiles, J. G. Reeves Sur. T.D. 2,406 ft.; W.O.S.R.

B. I. Daniels' No. 1 T. O. Livingston, G. Coore Sur. Cg. 2,263 ft.

M. D. Fitzwater's No. 1 C. Moseley, 330 ft. SE cor. 100-ac. tr., W. H. Burton Sur. Drlg. 965 ft.

L. Lindsey's No. 1 Hart, G. Coore Sur. Set 10¾-in. csg. 83 ft.; W.O.C.

J. D. Reynolds' No. 1-C Terry est., 150 ft. S, 1,820 ft. E, NW cor. Lewis Needham Sur. Cg. 2,362 ft.

Sanders & Wyckliffe's No. 1 W. P. Stiles, M. Noll Sur. Set 6-in. csg. 2,218 ft.; T.D. 2,408 ft.; swb. dry; S.D.; W.O.

Marion County—Rodessa

Holcomb & Thomason's No. 1-A Madine, 400 ft. WL, 467 ft. NL, 33.6-ac. tr., A. D. S. Coy Sur. Set 9⅝-in. csg. 1,840 ft.; drlg. L.&sh. 5,050 ft.

Shelby County

W. H. Neel et al's No. 1 J. W. Hanson, C 64-ac. tr., A. Sanford Sur. M.I.M.

Superior Oil Co.'s No. 1 Pickering Lbr. Co., 990 ft. E, 330 ft. N, SW cor. Lot 4, W. J. Crane Sur. T. Midway 1,555 ft.; T. Cane River 1,850 ft.; T. Annona 1,955 ft.; set csg. 2,658 ft.; completing.

WEST CENTRAL TEXAS DISTRICT

Brown County

A. M. Stalcup's No. 1 J. C. Morris, 900 ft. S and 700 ft. E lines of Morris tr. in John Goodwin and W. B. Hester surveys, S.D.R. 115 ft.

Wilson Oil Co., inc., No. 1 M. Bowden, Sec. 138, W. E. Gilliland Sur. S.D.R. 2,155 ft.

Callahan County

D. Fox and E. L. Dunn's No. 1 A. and G. Berry, NE part Sec. 78, B.O.A. Sur., 950-ft. test. Loc.

N. D. Gallagher's No. 1 E. Grisson, SE part Sec. 2, Blk. 8, S.P. Sur. Loc.

Green & Owens' No. 1 Murray, 156 ft from N and 1,725 ft. from E lines of Jacob Track Sur. 761. Fsg. 867 ft.

J. C. Hunter and H. L. Graham's No. 1 R. B. Leggett, Sec. 7, Blk. 8, S.P. Sur. Loc.

W. Lee's No. 1 H. W. Ross, 2,420 ft. W and 1,540 ft. S lines, Sec. 98, B.B.B.& C. Sur. Loc.

J. L. Reeves' No. 1 N. A. Estes, SW¼ Sec. 4; Blk. 8, S.P. Sur., 2½ mi. south Bowles pool. Loc.

Reeves' No. 1 Alexander, NE part of Sec. 12, E.T.R.R. Sur. C.O. 1,060 ft.

A. L. Thomas' No. 1 Abram, NW part Sec. 1, B.B.B.&C. Sur. Loc.

Coleman County

Anzac Oil Corp.'s No. 1 McCord, 2,200 ft. E, 2,196 ft. S of B.B.B.&C. Sur. Loc.

J. C. Ort's No. 1 Emet Walker, SE cor. Hicks Sur. W.O.C. 700 ft.

Robertson & Bradford's No. 1 Morris, 330 ft. N, 1,582 ft. W lines, Blk. 2, G.H.&H. Sur. R.U.R.

Comanche County

J. M. Russell's No. 1 P. Scott, SE SW Sec. 25, Blk. 2, H.&T.C. Sur. Loc.

Eastland County

Bradford & Robinson's No. 1 J. P. Morris, 330 ft. N and W lines of E½ W½ Sec. 176, G.H.&H. Sur. Loc.

Butler & Horne and E. J. Keough's No. 1 L. Waters, Sec. 83, Blk. 3, H.&T.C. Sur. Drlg. 3,135 ft.

Dobbs Oil Corp.'s No. 1 Mrs. R. L. Poe, 1,320 ft. from S and E lines of SE¼ Sec. 37, Blk. 3, H.&T.C. Sur. Drlg. 300 ft.

Dobbs Oil Corp.'s No. 1 Thomasson, S. H. Key Sur., 330 ft. from N and 646 ft. from E lines of 80-ac. tr. Drlg. 100 ft.

Hickok Prod. & Dev. Co.'s No. 1 Wright & Harrell, 2,485 ft. from east and 2,845 ft. from south lines of J. B. Hosle Sur., 4 mi. NE of Cisco. Drlg. 375 ft.

States Oil Corp.'s No. 1 V. N. Owens, NE Sec. 23, Blk. 2, T.&N.C. Sur. Loc.

W. A. Stiles et al's No. 1 H. F. Duncan, Sec. 10, Blk. 2, H.&T.C.R.R. Sur. Pits.

E. E. Thate's No. 1 Smith, T. Moffett Sur. 246. Loc.

Erath County

T. Gray's No. 1 C. Young hrs., NW cor. of Stephen Smith Sur., Abst. 882, &T.C. Sur. (6,000-ft. test). R.U.

T. G. Jackson No. 1 J. W. Taylor, Prater Sur., Abst. 1029, 4 mi. NE of Desdemona. U.R. 2,545 ft.

E. H. Young's No. 1 J. B. Mills, J. Harry Sur., 5 mi. NW of Dublin; 3,500-ft. test. Loc.

Fisher County

Montour Prod. Co.'s No. 1 Taggart, 1,980 ft. W and S lines, Sec. 184, Blk. 2, H. &T.C. Sur.; 6,000-ft. test. Drlg. 5,175 ft.

Hamilton County

A. J. Caldwell's No. 1 W. W. Jones, 1,002 ft. from NE and 150 ft. from SE lines of W. H. Crowder Sur. Drlg. 985 ft.

Wallace & Vickers' No. 1 C. C. Lund, J. P. Bailey Sur. 51. S.D.O. 3,453 ft.

Wallace & Vickers' No. 2 C. E. Lund, C S½ E 20 ac., N½ SW¼, R. J. Bailey Sur. 51. Rng. csg. 300 ft.; drlg. 575 ft.

Jones County

Berry Bros. & Perini's No. 1 S. L. Hodges, SW¼ S½ A. Bell Sur. 6; 2,150-ft. test. Loc.

Erin Pet. Co.'s No. 1 J. M. Caton, Sec. 4, Orphan Asylum Lds. Tstg. sat. 3,360-3,404 ft.; P.B. 3,390 ft.; flwd. 34 B.O. P.D.

J. E. Farrell's No. 1 F. B. Reid, NW¼ Sec. 31, D.&D. Sur. (3,500-ft. test). Drlg. 1,800 ft.

Humble O. & R. Co.'s No. 1 Ed Clift, 453-ac. tr. in E ½ of Ambrose Crain Sur. 214. Drlg. 1,600 ft.

T. D. Humphrey's No. 1 H. C. Hall, SE Sec. 1, Blk. 17, T.&P. Sur., 5 mi. N of Hawley pool. U.R. 1,700 ft.

Iron Mountain Oil Co.'s No. 1 I. F. Wiley, 330 ft. from S and E lines of SW¼ Sec. 14, Deaf & Dumb Ld. M.I.M.

Keeler's No. 1 Radford, SE¼ Sec. 20, Blk. 4, H.&T.C.R.R. Sur. S.D.; W.O. 1,800 ft.

Roberts' No. 1 J. Jeffreys, Sec. 7, Blk. 15, T.&P. Sur., 1½ mi. W of Sandy Ridge pool. T. Palo Pinto L. 3,466 ft.; topped sat. 3,478-89 ft.; tstg.

W. I. Southern's No. 1 A. A. Hayden, G. Martinez Sur., S of Anson, on west side of Prichard pool; 4,000-ft. test. Loc.

Palo Pinto County

J. Jones' No. 1 R. H. Gauldin, NW cor. Sec. 1743, T.E.&L. Sur. Trying to drill out U.R. lugs at 1,478 ft.

E. P. Wilson's No. 1 F. M. Watson, NW part of Sec. 10, Blk. 2, T.&P. Sur.; 3,250-ft. test. Loc.

Parker County

Brown & Gardner Bros.' No. 1 Gilbert, T.&P. Sur., Abst. 1958. S.D.O. 3,905 ft.

Runnels County

J. E. North's No. 1 J. W. Reese, Day Ld. & Cattle Co., 2¼ mi. S of McCullen. W.O.C. 2,030 ft.

Shackelford County

Georgian Oil Corp.'s No. 1 Black ranch, C NE¼ of T.E.&L. Sur. No. 390, 10 miles NE of Albany, Ordovician test. Drlg. 2,230 ft.

Jones & Stasney's No. 1 L. G. Davis, SE SW Sec. 50, Blk. 13, T.&P. Sur.; 1,600-ft. test. Loc.

Swann & Gorsuch's No. 1 Sam Lazarus, SE SE Sec. 80, Blk. 13, T.&P. Sur. M.I.M.

Andrew Urban, Jr.'s No. 1 T. T. Brooks, 150 ft. N and W lines of NE 40 ac. of 106-ac. tr. in Sec. 90, University Lds. Sur. Loc.

C. W. Waddington's No. 1 J. W. Smith, NW part of Sec. 56, B.O.A. Sur.; 750-ft. test. Loc.

Stephens County

Jones Drlg. Co.'s No. 1 Corbett, SE Sec. 3, Blk. 3, S.P. Sur., 1½ mi. NE of Fagg area. Loc.

Panhandle Ref. Co.'s No. 1 Frank Magers, SE Sec. 1, Blk. 3, S.P. Sur., 1¾ mi. N of Fagg area. Drlg. 300 ft.

Pitzer & West and Brazos-Young Oil Corp.'s No. 1 H. Compton, SW SW Sec. 9, O.A.L. Sur., 1 mi. SE of Loving pool; 3,600-ft. test. Loc.

Throckmorton County

Falls Prod. Co.'s No. 1 J. C. Parker, SE part Sec. 990, T.E.&L. Sur.; 4,000-ft. test. Loc.

Normandie Oil Corp.'s No. 1 Travis Co. Sch. Lds., Sec. 37, Abst. 254, 5,500-ft. test. Drlg. 1,512 ft.; no report.

Taylor County

Texas Pacific Coal & Oil Co.'s No. 1 N. A. Reidenback, 990 ft. from north and west lines of Lot 19, Lge. 146, County Sch. Lds. Loc.; tight well; last report.

J. C. Turner's No. 1 E. A. Sheppard, NE SW Sec. 19, B.A.L. Sur. Drlg. 1,300 ft.

Canadian Fields

(Continued from Page 88)

horizons are expected at 1,650 and 2,700 ft., and if commercial production is secured additional wells will be drilled.

Steveville Field

In the Steveville field, east of Calgary, Standard of British Columbia's No. 1 Princess, LSD 13, Section 22-20-12w4, is preparing to resume from 5,254 ft. after spending several weeks shutting off a gas flow of over 30,000,000 cu. ft. a day, encountered in the lower Devonian limestone. Drilling will be continued for a thorough test of the Devonian.

British Columbia Test

Newell & Chandler of Calgary are arranging to move crews and drilling equipment to the Peace River block in northern British Columbia, some 80 miles west of Pouce Coupe, where they have contract for No. 1 well in the British Columbia provincial government's $200,000 drilling program. Location is at Commotion Creek, and contract calls for depth of 7,500 ft. unless commercial production is encountered earlier. Under the contract, the British Columbia government will construct a road and strengthen bridges, and provide transportation to the well site, this work having already been started. Movement of equipment to location will probably commence about April 1, and test will spud some time in May.

Ontario Drilling

In the Dover field, Kent County, Ontario, Prairie Gas & Oil Co.'s No. 7, Lot 5, Front Concession, Raleigh Township, finished at 3,285 ft., more than 200 ft. in the Trenton limestone, with several gas pays and a good show of crude. Oil rose 1,000 ft. in the well. The well is being shot by the Eastern Torpedo Co. E. P. Rowe's No. 1 Williams farm, about 1 mile east of Prairie Siding, is starting.

In the Malahide field, Elgin County, Union Gas Co.'s No. 40, Lot 30, Concession 5, has an initial flow of around 300,000 cu. ft. a day and is deepening. Central Pipe Line Co.'s No. 1, Lot 11, Concession 4, is below 300 ft.

Rocky Mountain Runs

Production estimated for week ended March 2:

WYOMING

	Barrels
Salt Creek	16,130
Big Muddy	1,150
Badger basin	170
Byron	1,520
Cody dome	90
Cole Creek	180
Dallas Derby	470
Dewey dome	10
Elk basin	670
Frannie	1,640
Garland	3,290
Grass Creek	1,700
Hidden dome	50
Hudson	230
La Barge	1,160
Lance Creek	23,810
Lost Soldier	1,720
Mahoney	330
Medicine Bow	780
Mule Creek	200
Oregon basin	3,750
Osage	600
Quealy dome	590
Rock River	2,500
Teapot	20
Warm Springs	80
Wertz	3,960
Total Wyoming	66,770

MONTANA

Border	50
Cat Creek	480
Cut Bank	10,300
Dry Creek	750
Pondera	800
Kevin-Sunburst	4,800
Total Montana	17,210

COLORADO

Iles dome	1,820
Florence	230
Fort Collins and Wellington	400
Wilson Creek	540
Moffat	190
Orchard	30
Rangely	90
Tow Creek	150
Price	510
Total Colorado	3,960

NEW MEXICO

Cooper	3,240
Corbin	40
Eaves	710
West Eunice	240
Eunice	19,870
Halfway	140
Hardy	3,520
Hobbs	13,910
Jal	630
Langlie	4,830
Lynch	470
Lynn	750
Mattix	4,960
Monument	20,630
North Lynch	20
Penrose	3,900
Rhoades	50
Skelly	1,500
South Eunice	4,200
South Lovington	1,550
Vacuum	12,330
Artesia-Maljamar	15,710
Aztec-Bloomfield	10
Getty	100
Hogback	200
Rattlesnake	500
Table Mesa	90
Total New Mexico	114,100
Total Rocky Mountain area	202,040

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas (Oct. 11, 1938)* $1.10
Sinclair Prairie Oil Marketing Co. October 2, 1939. DeSoto Pipe Line October 2, 1939. Cities Service Co. October 5, 1939. Shell Oil, Inc., October 5, 1939.
Van, Tex. (Oct. 11, 1938)* $0.93
Talco, Tex. (Oct. 2, 1939)* .65
Rodessa, Tex. .85
See North Louisiana gravity schedule
Cass and Panola counties, Texas
See note below
Altus and Tipton† See note below
Cayuga, Tex. (Oct. 2, 1939) $0.78
Clay Creek, Tex. .85
Long Lake, Tex. (Jan. 20, 1940) 1.08

*Humble Oil & Refining Co. †Gulf Refining Co. Pure Oil Co.'s Van price, 93 cents, effective Oct. 13, 1938.

Cass and Panola counties, Texas, effective October 12, 1938, by Magnolia Petroleum Co., same as North Louisiana prices in Column 5 gravity schedule.

Altus and Tipton, Oklahoma, starting at below 25° at 71 cents, 2-cent spread to 40° and above at $1.03. Cayuga posted by Pan American Pipe Line Co. Clay Creek by Sun Oil Co. Long Lake by Sinclair Oil Marketing Co.

West Texas

See gravity table.
Fisher County, Texas (Apr. 1, 1939)
See note below
Pecos County (Oct. 11, 1938)* $0.78
Pecos shallow (Oct. 11, 1938)† .65

*Shell Oil Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Oil Co.

Fisher County, Texas, by Shell Oil Co., Inc., below 25°, 68 cents; 25°, 70 cents, with 2-cent spread to 40° and over at $1.

North Louisiana and Arkansas

Shreveport, La. (Sept. 7, 1939) $1.05
See note below
Smackover, Ark. (Oct. 5, 1938)* .73
Buckner, Magnolia, and Village, Ark. (Oct. 5, 1938)* See note below
Schuler, Jones sand (Sept. 13, 1939) .79
Schuler, Reynolds sand (Sept. 13, 1939) .91
Tullos and Urania .89
Cotton Valley, La. (distillate) (Dec. 23, 1938)* 1.20
Cotton Valley (Holloway sand) Dec. 16, 1939) 1.00
Lisbon, La. (Apr. 29, 1939)
See note below
Atlanta, Ark. (Sept. 13, 1939) .93
Magnolia, Ark. (Sept. 13, 1939) .93
Dorcheat, Ark. (Feb. 10, 1940) 1.00
University, La. (Sept. 11, 1939)
See note below

*Smackover posted by Standard Oil Co. of Louisiana, Oct. 5, 1938; by Magnolia Petroleum Co., Oct. 12; by Gulf Refining Co., Oct. 13; McMillan Refining Co. and Cross Refining Co. met price. Tullos and Urania posted by Hunt Oil Co. and Arkansas Fuel Oil Co.

The above Schuler, Atlanta, and Magnolia, Arkansas, flat prices posted by Lion Oil Refining Co. Shreveport flat prices posted by Caddo Crude Oil Purchasing Co. and Atlas Oil Corp.

Buckner, Magnolia, and Village, Arkansas prices effective Sept. 13, 1939, by Standard Oil Co. of Louisiana, start at below 25° at 63 cents, with 2 cents added for each degree up to 40 and over at 95 cents.

Effective Sept. 7, 1939, Standard Oil Co. of Louisiana posted gravity prices in Shreveport field beginning at below 25°, 73 cents; 25-25.9°, 75 cents, with 2 cents added for each degree up to 40 and over at $1.05. Dorcheat posted by Standard of Louisiana.

In the Lisbon, Louisiana, field, effective Sept. 14, 1939, Gulf Refining Co. and Caddo Crude Oil Purchasing Co. posted 27-27.9°, 66 cents, with 2 cents added for each degree up to 35 and over at 82 cents.

In the Baton Rouge (University) field, Louisiana, effective Sept. 11, 1939, Standard Oil Co. of Louisiana posted below 20° 79 cents, with 3 cents added for each degree upward to 26-26.9° at $1, and then 2 cents added for each degree up to 40 and over at $1.28.

Southwest Texas

Salt Creek, Darst Creek, Hilbig, Carroll, Clark and Zoboroski (Oct. 11, 1938)* $0.96
Pettus (Oct. 11, 1938)* 1.29
Flour Bluff (Dec. 3, 1938)* 1.23
Jim Wells County (Oct. 2, 1939)* 1.23
Darst Creek (Oct. 12, 1938)† .96
Darst Creek and Bruner (Oct. 13, 1938)‡ .96
Luling (Oct. 12, 1938)† .87
Lytton Springs (Oct. 12, 1938)† .99
Mirando (Oct. 12, 1938)† .99
Government Wells (Oct. 13, 1938)
See note below

*Humble Oil & Refining Co. †Magnolia Petroleum Co. Pettus price adopted by Atlantic Crude Oil Purchasing Co. ‡Gulf Refining Co.

Government Wells posted by Sun Oil Co. starts at 20° at 77 cents, 3-cent spread to 24°-24.9° at 89 cents.

Gulf Coast

Sea Breeze, Willow Slough, and LaBelle, Tex. (Sept. 14, 1939)*** $1.10
Conroe, Tex. (Oct. 11, 1938)* 1.27
Black Bayou and White Castle, La. (Oct. 11, 1938)† See note below
Gibson, La. (Oct. 11, 1938)† $1.04
Garden Island, La. (Oct. 12, 1938)‡ 1.24
Lafitte, La. (Oct. 12, 1938)‡ 1.04
Cleveland, Tex. (Oct. 12, 1938)¶ 1.14
Schwab, Polk County (Feb. 20, 1939) 1.00
Hardin, Tex. (Sept. 14, 1939)* 1.10
Tepetate, La. (Oct. 11, 1938)§ 1.03
Villa Platte, La. (Oct. 11, 1938)§ 1.03
Abbeville, La. (Jan. 1, 1939)§
See note below
Bosco, La. (Dec. 3, 1938)‖ $0.93
Creole, La. (Oct. 13, 1938)‖ .96
Gueydan, Sweet Lake, and Louise, La. (Oct. 13, 1938)‖ See note below
Vinton, Edgerly, Starks, Hackberry, Timbalier Bay, Quarantine Bay, and Grand Bay, La. (Oct. 2, 1939)**
Segno and Wing (Oct. 2, 1939)**
See note below
Livingston (Oct. 11, 1938)† $1.10
Happytown, La. (Jan. 12, 1940)† 1.00

*Humble Oil & Refining Co. †Shell Oil Co., Inc., ‡Texas Co. §Continental Oil Co. ‖Pure Oil Co. ¶Magnolia Petroleum Co. **Gulf Refining Co. ***Sun Oil Co. Hardin prices by Humble and Sun companies.

Black Bayou, etc., starts at below 20° at 79 cents; 20°-20.9°, 81 cents; 21°-21.9°, 83 cents; then a 3-cent spread to 26°-26.9°, 98 cents; then a 2-cent spread to 40° and over at $1.14. Abbeville starts at below 36°, 92 cents, 2-cent spread to 40° and over at $1.02. Gueydan, etc., starts below 20°, 79 cents, 3-cent spread to 26°-26.9° at $1, and 2-cent spread to 40° and over at $1.28. Segno and Wing take Gulf Refining Co.'s Gulf Coast prices. Vinton, Edgerly, etc., schedule starts at below 20°, 86 cents, 2-cent spread to 34° and above at $1.16. Schwab posted by Shell Oil Co., Inc.

Hackberry, East and West, effective October 2, 1939, by Stanolind Oil & Gas Co. Below 20 gravity 86 cents, 2 cents added for each degree up to 34° and over at $1.16.

Crude Prices by Gravities

Gravity—	Oklahoma and Kansas 1	Oklahoma and Kansas 2	Oklahoma and Kansas 3	North and Central Texas 4	Louisiana and Arkansas 5	East Central Texas 6	Gray County, Texas 7	Carson and Hutchinson Counties, Texas 8	West Texas, and Lea County, N. M. 9	Raccoon, Satsuma, and Tomball, Texas 10	Gulf Coast 11	Anahuac, Dickinson, Texas 12	Refugio, Texas 13	Mirando-Duval, Beaumont-West Beaumont, Texas 14	Golden Meadow, Louisiana 15	Lockport, Iowa, Cameron Meadows, Louisiana 16	Bunkie and Eola, Louisiana 17	Artesia, Jackson, McJunkin, N. M. 18
Below 18	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	$.74	....	....
18-18.9	....	....	....	....	....	....	....	....	$.53	....	....	....	....	....	....	.76	....	....
19-19.9	....	....	....	....	....	....	....	....	.53	....	$.86	$.81	$.91	$.86	....	.78	....	....
20-20.9	$.70	....	$.60	....	....	....	....	....	.55	....	.88	.83	.93	.88	....	.80	....	....
21-21.9	.72	....	.63	....	....	....	....	....	.57	....	.90	.85	.95	.90	....	.82	....	....
22-22.9	.74	....	.66	....	....	....	....	....	.59	$.95	.92	.87	.97	.92	....	.85	....	....
23-23.9	.76	....	.69	....	....	$.78	....	....	.61	.97	.94	.89	.99	.94	....	.88	....	....
24-24.9	.78	....	.72	$.71	$.73	.80	....	....	.63	.99	.96	.91	1.01	.96	$.90	.91	....	....
Below 25	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	$.83	....
25-25.9	.80	$.58	.75	.73	.75	.82	....	....	.65	1.01	.98	.93	1.03	.98	.90	.94	.85	....
26-26.9	.82	.63	.78	.75	.77	.84	....	....	.67	1.03	1.00	.95	1.05	1.00	.90	.97	.87	....
27-27.9	.84	.68	.81	.77	.79	.86	....	....	.69	1.05	1.02	.97	1.07	1.02	.90	.99	.89	....
28-28.9	.86	.73	.84	.79	.81	.88	$.72	$.67	.71	1.07	1.04	.99	1.09	1.04	.90	1.01	.91	$.61
29-29.9	.88	.78	.87	.81	.83	.90	.74	.69	.73	1.09	1.06	1.01	1.11	1.06	.90	1.03	.93	.63
30-30.9	.90	.82	.90	.83	.85	.92	.76	.71	.75	1.11	1.08	1.03	1.13	1.08	.90	1.05	.95	.65
31-31.9	.92	.86	.92	.85	.87	.94	.78	.73	.77	1.13	1.10	1.05	1.15	1.10	.92	1.07	.97	.67
32-32.9	.94	.90	.94	.87	.89	.96	.80	.75	.79	1.15	1.12	1.07	1.17	1.12	.94	1.09	.99	.69
33-33.9	.96	.96	.96	.89	.91	.98	.82	.77	.81	1.17	1.14	1.09	1.19	1.14	.96	1.11	1.01	.71
34-34.9	.98	.98	.98	.91	.93	1.00	.84	.79	.83	1.19	1.16	1.11	1.21	1.16	.98	1.13	1.03	.73
35-35.9	1.00	1.00	1.00	.93	.95	1.02	.86	.81	.85	1.21	1.18	1.13	1.23	1.18	1.00	....	1.05	.75
36-36.9	1.02	1.02	1.02	.95	.97	1.04	.88	.83	.87	1.23	1.20	1.15	1.25	1.20	1.02	....	1.07	.77
37-37.9	1.04	1.04	1.04	.97	.99	1.06	.90	.85	.89	1.25	1.22	1.17	1.27	1.22	1.04	....	1.09	.79
38-38.9	1.06	1.06	1.06	.99	1.01	1.08	.92	.87	.91	1.27	1.24	1.19	1.29	1.24	1.06	....	1.11	.81
39-39.9	1.08	1.08	1.08	1.01	1.03	1.10	.94	.89	.93	1.29	1.26	1.21	1.31	1.26	1.08	....	1.13	.83
40 and over	1.10	1.10	1.10	1.03	1.05	1.12	.96	.91	.95	1.31	1.28	1.23	1.33	1.28	1.10	....	1.15	.85

Column 1—Effective October 17, 1938, by Standard Oil Co. of Indiana. By Gulf Refining Co., October 13, 1938. Carter Oil Co. schedule and prices same from 30° upward, but on lower gravities pays below 21° 60 cents, with 3 cents added for each degree up to and including 29-29.9°, effective October 13, 1938. Gulf Oil Corp. starts at below 25° 78 cents, October 13, 1938. Texas Co. schedule starts at 28-28.9° at 86 cents. Pure Oil Co. same as Standard of Indiana's schedule, effective October 14, 1938.

Column 2—Sinclair Prairie Oil Marketing Co. February 16, 1939.

Column 3—Magnolia Petroleum Co. effective October 12, 1938; Shell Petroleum Corp., October 22, 1938; Shell Oil Co., Inc., April 1, 1939.

Column 4—Effective December 3, 1938, by Humble Oil & Refining Co. in Central Texas. By Magnolia Petroleum Co. in East Central and in North and Central Texas, excepting that it starts at below 29° at 79 cents, effective December 3, 1938. Texas Co. in North and Central Texas, same as Magnolia's but effective October 12, 1938. Gulf Refining Co. same as Magnolia's, effective October 13, 1938. Sinclair Prairie Oil Marketing Co. same as Magnolia's, effective October 5, 1939. Stanolind Oil Purchasing Co., in Cooke and Montague counties, schedule starts at below 21°, 60 cents, with a 2-cent spread upward to 40° and over at $1, effective October 17, 1938.

Column 5—Standard Oil Co. of Louisiana, effective October 5, 1938. Met by Gulf Refining Co. October 13; met by Texas Co. October 12.

Column 6—Humble Oil & Refining Co., October 11, 1938.

Column 7—Humble Oil & Refining Co., effective December 3, 1938. Sinclair Prairie Oil Marketing Co., October 11, 1938. Texas Co. quotes "Panhandle sweet crude," beginning with 34-34.9°, at 84 cents, with 2-cent spread to 40° and over at 96 cents, and "Panhandle sour crude," 79 cents for 34-34.9°, with a top of 91 cents for 40° and over, effective October 12. Magnolia Petroleum Co. met Humble prices throughout, effective December 3. Gulf Refining Co. quotes "Panhandle sweet crude" at below 29°, 72 cents with a 2-cent spread, and a top price of 96 cents for 40° and above, and "Panhandle sour crude" below 29°, 67 cents, with a top of 91 cents for 40° and above effective October 13. Phillips Petroleum Co. schedule for sweet crude in Gray, Carson, and Hutchinson counties, starts at below 29°, 72 cents, with a spread of 2 cents up to 96 cents for 40° and over, effective February 7, 1939.

Column 8—Humble Oil & Refining Co., effective December 3, 1938. Sinclair Prairie Oil Marketing Co., October 11, 1938. Texas Co. quotes "Panhandle sweet crude" at 34-34.9°, 84 cents, with a top of 96 cents for 40 gravity, and "Panhandle sour crude" at 34-34.9°, 79 cents, with a top of 91 cents for 40° and over, effective October 12. Gulf Refining Co. quotes "Panhandle sweet crude" at below 29°, 72 cents, with a top of 96 cents for 40° and over and "Panhandle sour crude" at below 29°, 67 cents, with a top of 91 cents for 40° and above, effective October 13. Phillips Petroleum Co. schedule for sour crude in Carson, Moore, and Hutchinson counties, starts at below 29° at 67 cents, with a spread of 2 cents up to 91 cents for 40° and over, effective February 7, 1939.

Column 9—Humble Oil & Refining Co., effective October 11, 1938. Texas Co. schedule starts at below 26°, 65 cents, and ends at 36° and over at 87 cents, effective October 12. Gulf Refining Co. starts at below 26° at 65 cents and ends at 40° and over at 95 cents, effective October 13. Magnolia Petroleum Co. schedule starts below 25°, 63 cents, and ends at 40° and above at 95 cents, effective October 12. Sinclair Prairie Oil Marketing Co. schedule same as that of Magnolia, effective October 11, but revised on March 24, 1939, to stop at 36° and over at 87 cents. Stanolind Oil Purchasing Co. schedule same as that of Humble, effective October 11. Stanolind Oil & Gas Co. (Winkler County) starts at below 26°, 65 cents, with a 2-cent spread, and a top of 95 cents for 40° and above, effective October 11, 1938. Effective September 1, 1939, Shell Oil Co., Inc., posted Yoakum County crude, starting at below 20°, 53 cents, with 2 cents added for each degree up to 36° and over at 87 cents.

Column 10—Humble Oil & Refining Co., effective October 11, 1938. Magnolia Petroleum Co., in Tomball, effective October 12.

Column 11—Effective October 2, 1939, by Humble Oil & Refining Co. in Texas Coast. By Sinclair Prairie Oil Marketing Co. in Texas Coast, October 3, 1939. By Texas Co. at $1.16 in Texas and Louisiana Coast, October 2, 1939, schedule stopping at 34° and over. By Sun Oil Co. in Texas and Louisiana Coast, October 2, 1939. By Gulf Refining Co. in Louisiana October 2, 1939, excepting that schedule stops at $1.16 for 34° and above. By Gulf Refining Co. in Texas, effective November 1, 1939.

Column 12—Effective by Humble Oil & Refining Co. October 2, 1939. By Sun Oil Co. in Anahuac, October 2, 1939. By Gulf Refining Co. in Anahuac, October 2, 1939. On November 1, 1939, Gulf Refining Co. applied these prices to Anahuac, Hull (New), Pierce Junction, Orange, Thompson (deep).

Column 13—Effective October 2, 1939, by Humble Oil & Refining Co. and Continental Oil Co. By Texas Co. up to 28° and over at $1.09 October 2, 1939. Atlantic adopted Humble price schedule November 7, 1939, in Refugio and applied it also to Greta.

Column 14—Effective October 2 by Humble Oil & Refining Co. By Sun Oil Co. in Mirando alone, stopping at 24-24.9° at 96 cents. By Stanolind Oil & Gas Co. in West Beaumont, alone, October 2, 1939. Gulf Refining Co. in West Beaumont, October 2, 1939. By Magnolia Petroleum Co. in Beaumont, October 2, 1939. By Texas Co. in Duval and Mirando, stopping at 28-28.9° at $1.09. Continental Oil Co. in Mirando and Duval, October 2, 1939.

Column 15—Effective October 2, 1939, by Texas Co.

Column 16—Magnolia Petroleum Co., effective October 12, 1938.

Column 17—Standard Oil Co. of Louisiana, effective October 23, 1939.

Column 18—Continental Oil Co., effective October 11, 1938.

In the Bunkie and Eola pools in Louisiana, effective October 23, 1939, by Standard Oil Co. of Louisiana, below 25° 83 cents, 2 cents added for each degree up to 40° and over at $1.15.

Iowa, La., effective October 11, 1938, by Shell Petroleum Corp. and on April 1, 1939, by Shell Oil Co., Inc.: Below 18°, 75 cents; 18°-18.9°, 77 cents; 2-cent spread to 21°-21.9° at 83 cents; then a 3-cent spread to 26°-26.9° at 98 cents; then a 2-cent spread to 34° and above at $1.14.

Middle Western States

OHIO OIL CO.
(Effective June 8, 1939)

Illinois old fields	$0.95
Illinois basin	1.05
Princeton, Ind.	.95
Western Kentucky (June 9, 1939)†	.90
Birk City, Ky. (June 9, 1939)¶	.90
Corydon, Ky. (June 9, 1939)	.90
Greendale, Porter, Crystal and Wise, Mich. (Oct. 9, 1939)*‡	1.02
Buckeye, Bentley, Edenville, Beaverton, Mich. (Oct. 9, 1939)*	1.00
Freeman-Redding, Mich. (Oct. 9, 1939)‡	.97
Arenac, Mich. (Oct. 9, 1939)*	.82
West Branch, Mich. (Nov. 1, 1939)*	.85
Allegan-Kent (Oct. 10, 1939)	1.03
Bloomingdale and Columbia, Mich.¶	1.03
Muskegon	1.00
Sherman and Freeman, Mich. (Oct. 9, 1939)‡	.97
Eastern Kentucky:	
Big Sandy River (June 9, 1939)†	1.02
Kentucky River (June 9, 1939)†	1.10

*Simrall Corp. †Ashland Refining Co. ‡Pure Transportation Co. §Imperial Refining Co. ¶Sohio Oil Co. Bloomingdale posted by Tri-Lakes Corp. Kent County by Naph-Sol Refining Co. Effective Feb. 1, 1940, Sohio Corp. posted $1.05 per barrel in the Centralia, Salem, and Louden fields for crude up to 30 bbl. per well per day. In the McClosky lime fields of Clay, Wayne, and Noble counties it posted $1.05 per barrel up to 40 bbl. per well per day. For all oil produced in exces of the above figure in any of the fields named it posted $1 per barrel. On Oct. 10, 1939, Sohio posted 95 cents per barrel in the Griffin field in Gibson County, Indiana, and Wabash County, Illinois, for crude produced from sand and 90 cents for crude produced from limestone.

Rocky Mountain States

Dry Creek, Wyo. (Oct. 11, 1938)*	$0.92
Elk Basin, Wyo. (Oct. 11, 1938)*†	.90
Grass Creek, light, Wyo. (Oct. 11, 1938)*†	.90
Grass Creek, heavy (Oct. 11, 1938)†	.40
Lance Creek, Wyo. (Oct. 11, 1938)*	.77
Rock Creek, Wyo (Oct. 11, 1938)*	1.00
Iles, light, Colo. (Oct. 11, 1938)†	.98
Iles, heavy, Colo. (Oct. 11, 1938)†	.92
Dutton Creek, Wyo. (Oct. 11, 1938)†	See note below
Frannie, light, Wyo. (Oct. 11, 1938)†	$0.55
Frannie, heavy, Wyo. (Oct. 11, 1938)†	.42
Hamilton dome, Wyo. (Oct. 11, 1938)†	.35
Midway, Wyo. (Oct. 11, 1938)†	See note below
Salt Creek Tensleep Crude, Wyo. (Oct. 11, 1938)†	$0.646
Salt Creek (Oct. 11, 1938)	See note below
Canon City, Colo. (Oct. 11, 1938)‡	$0.90
Florence, Colo. (Oct. 11, 1938)‡	.90
Cut Bank, Mont. (Jan. 1, 1940)	1.00
Kevin-Sunburst, Mont. (Jan. 1, 1940)	.80
Cat Creek, Mont. (Oct. 11, 1938)‡	1.10
Big Muddy, Wyo. (Oct. 11, 1938)‡	.98
Lance Creek, Wyo. (Oct. 11, 1938)‡	.77
Lea County, New Mexico	See West Texas gravity schedule‡
Artesia, Jackson and Maljamar	See gravity table‡
Fort Collins and Wellington, Colo.	See note below
Eddy County, New Mexico (Oct. 11, 1938)§	$0.77

*Ohio Oil Co. †Stanolind Oil & Gas Co. ‡Continental Oil Co. §Sinclair Prairie Oil Marketing Co.

Dutton Creek and Salt Creek Tensleep crudes start at below 29°, 86 cents, 2-cent spread up to 40° and over at $1.10. Salt Creek crude, excepting Tensleep, takes Standard Oil Co. of Indiana's Oklahoma-Kansas prices. Stanolind Oil & Gas Co., effective Oct. 11, discontinued posting prices in Greybull-Torchlight, Wyoming, and Hogback and Hospah, New Mexico. In Fort Collins and Wellington, Colorado, effective Oct. 11, 1938, by Continental Oil Co. 28-28.9°, 81 cents, with 2 cents added for each degree up to 40° and over at $1.05. Cut Bank and Kevin-Sunburst posted by Producers Refining Co.

Eastern States

SOUTH PENN OIL CO.
(Effective Jan. 1, 1940)

Pennsylvania Grade oil in National Transit lines (Bradford field)	$2.75
Pennsylvania Grade oil in Southwest Pennsylvania lines	2.40
Pennsylvania Grade oil in Eureka Pipe Line lines	2.34
Corning grade oil in Buckeye Pipe Line Co. line (Nov. 4, 1939)	1.12

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.
(Effective Jan. 1, 1940)

Bradford, Pa.	$2.75
Allegany, N. Y.	2.75

PENNZOIL CO.
(Effective Jan. 1, 1940)

Group A	$2.68
Group B	2.67
Group C	2.66
Group D	2.65
Group E	2.63

PURE OIL CO.
(Effective Jan. 1, 1940)

West Virginia	$2.34

QUAKER STATE OIL REFINING CORP.
(Effective Dec. 1, 1939)

Southern Ohio (Pa. Grade)	$2.30

Canada

ONTARIO
(Nov. 6, 1939, by Imperial Oil, Ltd.)

Petrolia	$2.10
Oil Springs	2.07
Bothwell	2.10

TURNER VALLEY
(Jan. 5, 1938, by Imperial Oil, Ltd.)

Clear naphtha and discolored naphtha, 65° and higher	$2.14
Discolored naphtha and crude oil, 40°-40.9°	1.14
Increasing 2 cents for each degree gravity with top price for 64°-64.9°	1.62

These prices f.o.b. producers' field tankage.

NORTH TEXAS COMPLETIONS

Archer County

Barnes & Traogh's No. 1 Ray Carson B, 4,327-49 ft., 1,800 bbl. L. T. Burns' No. 97 J. H. Hite, 4,393-4,424 ft., 608 bbl. Chapman & McFarlin's No. 5 L. F. Wilson C, 4,331-89 ft., 833 bbl. Chapman & McFarlin's No. 8 L. F. Wilson C, 4,329-84 ft., 601 bbl. Continental Oil Co.'s No. 8 L. F. Wilson, 4,298-4,409 ft., 1,856 bbl. King Oil Co. and Phillips' No. 6 L. F. Wilson E, 4,013-39 ft., 984 bbl. Bert L. Ligon's No. 2-A O. T. Anderson, 4,462 ft., dry. Bert L. Ligon's No. 7 O. T. Anderson, 4,018-33 ft., 254 bbl. Magnolia Petroleum Co.'s No. 3 Fred Thom, 3,794-3,854 ft., 152 bbl. Southern Petroleum Exploration, Inc.'s No. 8 T. C. Moss, 4,274-4,337 ft., 1,816 bbl. B. F. & H. Oil Co.'s No. 7 W. T. Richardson, 1,434-39 ft., 10 bbl. D. R. Criswell and others' No. 1 A. C. O'Donnell, 1,275 ft., dry. W. B. Hamilton's No. 5 A. J. Ikard C, 1,145-51 ft., 25 bbl. W. B. Hamilton's No. 6 A. J. Ikard C, 1,168 ft., dry. Pace Petroleum Corp.'s No. 31 C. L. Abercrombie B, 1,004-19 ft., 10 bbl. Pace Petroleum Corp.'s No. 3 H. L. Morrison, abandoned location. Petroleum Production Co.'s No. 1 D. L. Wolf, 5,295 ft., dry.

Baylor County

British American Oil Producing Co.'s No. 1 J. A. Richardson B, 2,532-37 ft., 592 bbl.

Clay County

L. T. Burns' No. 4 A. L. Browning, 4,445-70 ft., 583 bbl. C. W. Clark, trustee's No. 14 C. J. Shumake, 1,139-40 ft., 4 bbl. E. N. Costley's No. 1 C. T. Taylor E, abandoned location. Perkins & Cullum's No. 3-A C. T. Taylor, 1,078-97 ft., 336 bbl. Riner and others' No. 2 E. H. Hamilton, 1,150 ft., dry.

Cooke County

Cox & Hamon's No. 7 K. Neu A, 4,873-99 ft., 963 bbl. Sinclair Prairie's No. 5 P. McGeorge, 4,966-87 ft., 839 bbl. Georgian Oil Corp.'s No. 1 W. H. Campbell, 1,485 ft., dry.

Foard County

Foster Petroleum Corp.'s No. 1 B. Allee, sand 2,300-29 ft., 1,300,000 cu. ft. of gas.

Jack County

Pitzer & West's No. 1 J. R. Sloan, 5,520 ft., dry.

Wichita County

Continental Oil Co.'s No. 21 J. L. and T. J. Waggoner, 1,910 ft., dry. E. C. Oil Co.'s No. 7 A. W. Burnside, 4,005-55 ft., 492 bbl. Fresno Oil Co.'s No. 1 Ed Foster, 2,104 ft., dry. Hanlon-Buchanan, Inc.'s No. 7 Fassett & Tuttle E, 3,969-4,025 ft., 298 bbl. George Proctor's No. 47 Ed Foster A, 1,523-44 ft., 10 bbl. Hulda B. Wallace's No. 2-D J. C. Strauss, 3,714-86 ft., 834 bbl. Wolf and others' No. 1 E. Daume, 686-96 ft., 24 bbl.

Wilbarger County

Falls Refining Co.'s No. 3 T. D. Owens, 3,185-3,200 ft., 1,550 bbl. Golding & Cochran's No. 7 W. T. Waggoner S, 712-40 ft., 9 bbl. King Oil Co.'s No. 25 W. T. Waggoner C, 725 ft., dry. Lawson & Leavell's No. 1 D. Gfeller, 1,354 ft., dry. Waggoner Refining Co.'s No. 3 W. T. Waggoner GG, 3,748-70 ft., 966 bbl.

Young County

M. M. Bradley's No. 1 L. F. Gragg, 808 ft., dry. Chambers & Humphrey's No. 11 S. M. J. Benson, 960 ft., dry. W. G. Horn's No. 8 W. B. Gregg, 749 ft., dry. E. W. Hunt's No. 6 H. N. Gass, 1,218-27 ft., 18 bbl. Charles B. King's No. 11 C. W. Johnson, 586-98 ft., 10 bbl. Ed Willis' No. 2 R. J. McCloud, 894-99 ft., 10 bbl.

STANDARD OIL CO. OF CALIFORNIA

Crude-oil prices at the well effective February 1, 1940

(All gravities above those quoted take highest price offered in that field)

Gravity—	Signal Hill (Long Beach) (El Segundo)	Wilmington	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley-Canal	Cole's Levee Richfield Western	Mountain View	Elk Hills	Buena Vista, Midway-Sunset, Lakeview	Lost Hills	Coalinga	Kettleman Hills
14-14.9	$.65	$.60	$.64	$.63	$.64	$.65	$.61	...	$.65	$.61	$.61	$.62	$.63	...	...	...	...	$.60	$.60	$.60	$.60	...
15-15.9	.65	.60	.64	.63	.64	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
16-16.9	.65	.60	.64	.63	.64	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
17-17.9	.65	.62	.64	.63	.68	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
18-18.9	.65	.64	.64	.63	.71	.65	.65	...	.68	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
19-19.9	.69	.69	.64	.67	.75	.70	.69	...	.72	.61	.65	.62	.63	...	...	...	$.60	.64	.64	.64	.61	...
20-20.9	.73	.73	.64	.72	.79	.76	.74	...	.75	.65	.69	.62	.67	...	...	...	.60	.69	.69	.69	.62	...
21-21.9	.78	.78	.64	.76	.82	.81	.78	...	.79	.69	.73	.62	.72	$.63	...	...	.64	.74	.74	.74	.66	...
22-22.9	.82	.82	.69	.81	.86	.86	.82	...	.82	.73	.77	.66	.76	.63	...	...	.68	.79	.79	.78	.70	...
23-23.9	.86	.86	.75	.85	.89	.92	.86	$.71	.86	.78	.82	.71	.81	.67	...	...	.71	.84	.84	.82	.74	...
24-24.9	.90	.90	.80	.90	.93	.97	.90	.77	.89	.82	.86	.75	.85	.72	...	...	.75	.89	.89	.86	.78	...
25-25.9	.95	.95	.86	.94	.96	1.02	.95	.82	.93	.86	.90	.80	.89	.77	...	...	.79	.94	.94	.90	.82	...
26-26.9	.99	.99	.91	.99	1.00	1.08	.99	.88	.96	.90	.94	.84	.94	.82	...	...	.83	.99	.99	.95	...	...
27-27.9	1.03	1.03	.97	1.03	1.04	...	1.03	.94	1.00	.94	.98	.89	.98	.87	$.83	$.92	.87	1.04	1.04	.99	...	...
28-28.9	1.07	1.07	1.02	1.07	1.07	f.o.b.	1.07	.99	1.03	.98	[illegible]	.93	1.02	.91	.86	.96	.91	1.09	1.09	1.03	...	...
29-29.9	1.10	1.10	1.07	1.11	1.10	our	1.10	1.04	1.06	1.02	...	.98	1.06	.96	.90	.99	.95	1.14	1.14	1.07	...	...
30-30.9	1.14	1.14	1.12	1.15	1.14	pipe	1.14	1.09	1.09	...	...	1.02	1.10	1.01	.94	1.02	.99	1.19	1.19	1.11	...	...
31-31.9	...	...	...	...	1.17	line	1.17	1.14	...	...	...	1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24	...	...	...
32-32.9	...	...	...	...	1.20	...	1.20	1.19	...	...	...	1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29	...	...	...
33-33.9	...	...	...	...	...	...	...	1.24	...	...	...	1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34	...	...	$1.12
34-34.9	...	...	...	...	...	...	...	1.29	...	...	...	1.20	1.26	1.19	1.10	1.16	1.14	...	...	...	...	1.17
35-35.9	...	...	...	...	...	...	...	1.34	...	...	...	1.24	...	1.23	1.14	1.20	...	...	...	...	...	1.21
36-36.9	...	...	...	...	...	...	...	1.39	...	...	...	1.28	...	1.27	1.18	1.23	...	...	...	...	...	1.25
37-37.9	...	...	...	...	...	...	...	1.44	...	...	...	1.33	...	1.31	1.22	1.26	...	...	...	...	...	1.29
38-38.9	...	...	...	...	...	...	...	1.49	...	...	...	1.37	...	1.36	1.25	1.30	...	...	...	...	...	1.33
39-39.9	...	...	...	...	...	...	...	1.54	...	...	...	1.42	...	...	1.29	1.34	...	...	...	...	...	1.38
40-40.9	...	...	...	...	...	...	...	1.59	...	...	...	1.46	...	...	1.33	1.37	...	...	...	...	...	...
41-41.9	...	...	...	...	...	...	...	...	...	...	...	1.50	...	...	1.37	1.40	...	...	...	...	...	...
42-42.9	...	...	...	...	...	...	...	...	...	...	...	1.54	...	...	1.41	1.44	...	...	...	...	...	...
43-43.9	...	...	...	...	...	...	...	...	...	...	...	1.59	...	...	1.45	1.47	...	...	...	...	...	...
44-44.9	...	...	...	...	...	...	...	...	...	...	...	1.63	...	...	1.49	1.51	...	...	...	...	...	...
45-45.9	...	...	...	...	...	...	...	...	...	...	...	1.67	...	...	1.53	1.54	...	...	...	...	...	...
46-46.9	...	...	...	...	...	...	...	...	...	...	...	1.71	...	...	1.57	1.57	...	...	...	...	...	...
47-47.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.61	...	...	...	...	...	...	...
48-48.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.64	...	...	...	...	...	...	...

For Newhall, McKittrick, Kern River, Round Mountain and Kern Front crude, Standard posts 60 cents per barrel for all grades. For Elwood Terrace crude (free on board ship), 33-33.9, $1.21, with 4 cents added for each degree up to and including 37° and over at $1.37; Wheeler Ridge crude, 19 to 21.9°, 60 cents; 22-22.9, 63 cents; 23-23.9, 67 cents; 24-24.9, 71 cents; 25° and over, 75 cents.

Four New Wildcat Locations Staked in Mississippi Area

By GEORGE WEBER

JACKSON, Miss., Mar. 4.—Four new wildcat locations were staked during the past week in Mississippi, bringing that state's drilling campaign further into play, following extensive leasing and geophysical surveying. Leasing continued active in the state, centered around prospects, where trading in acreage with tests forthcoming accounted for much of the volume.

Geophysical activity continued, with 60 crews in Mississippi, working mainly in the central and east central sections, and eight crews in Alabama, where leasing and geophysical activity are both on the definite increase. The Northwest Alabama basin, which is following Mississippi in leasing and shooting, is characterized by the presence of large tracts of land held by steel and coal companies, who are leasing in huge blocks to interested majors and independents.

Mississippi Wildcats

In Clark County, on the east edge of the state, Ark.-Miss. Oil Co., formerly Modisett Drilling Co., has staked location for No. 1 State, in Section 16-2n-16e. This test, located on a 1,500-acre block, is due a 5,000-ft. test, to begin by March 15. A Madison County wildcat which will get under way by April 19 is Ralph A. Johnston's No. 1 Ray & Dinkins, Section 14-10n-3e, drilling on a 5,000-acre block. Kingwood Oil Co. is moving materials into No. 1 R. E. Wilburn, Section 31-12n-3e, in the extreme eastern part of Yazoo County, on a 5,000-acre block. The long-expected Glass dome wildcat, W. O. Allen's No. 1 J. W. Culley, was staked this past week, in the NW¼ Section 6-13n-3e. It is rigging up.

Tinsley gained one new producer during the week to bring its total of oil wells to 23. Production declined an average of 400 bbl. daily during the week, due to pressure drops in many wells. Several wells are kept on production by agitation, and pumping rigs are being moved in or ordered for nearly all Woodruff-sand wells.

Little news concerning possible legislation pertinent to the oil industry is coming from Jackson. The legislature in session has been occupied with other matters, but it is expected that revenue acts, including severance taxes on oil and gas, will be before legislators' attention this week. The centralization of conservation bureaus may also get action, although full acceptance of the bill's points may not be gained. Presentation of a conservation bill to the body is still an unknown possibility.

MISSISSIPPI

Attala County

F. R. Jackson's No. 1 Federal Land Bank. 410 ft. S, 620 ft. E NW cor. NW SE Sec. 29-16n-9e. Drk.

Kosciusko Oil Co.'s No. 1 Jones, 600 ft. NW cor. Sec. 5-15n-9e. Loc.

F. & M. Oil Co.'s No. 1 J. A. McMillin, 300 ft. SW cor., SE SE Sec. 26-13n-5e. Drk.; selling spreads.

Choctaw County

Garland Anthony et al's No. 1 Ballard, SE cor. Sec. 8-18n-1e. T.D. 22 ft.; S.D

Clarke County

Ark.-Miss. Oil Co.'s No. 1 State, C SE NE Sec. 16-2n-16e. Loc.

Copiah County

Triangle Drlg. Co.'s No. 1 W. W Broome, 153 ft. SW cor. SW SE Sec 1-10n-8e. T.D. 15 ft.; arng. resume drlg.

Hinds County

Crescent Oil Mill's No. 1 fee, E side Mill St., fire zone No. 3, City of Jackson, Sec. 3-5-1e. Set 8⅝-in. csg. 822 ft.; Set 5½-in. csg. on btm.; drld out to 2,468 ft.; reported tested 50,000 cu. ft. gas and water; T.D. 2,468 ft.; dpnd. to 2,470 ft.; S.W. incr.; tools moved out; S.D.; W.O.; H.F.W.

Issaquena County

W. E. Hall's No. 1 Irby Charping, approx. C NE NW Sec. 29-10n-8w. Drk.

Locke & Mellard's No. 1 W. Gary, 660 ft. SE cor., NW Sec. 14-9n-6w. Loc.

Tatum, Dunbar & Shaddock's (Germany, Lucy & Fair) No. 1 Mohanna, E½ SW Sec. 9-18n-3e. Set 18-in. csg. 20 ft.; recmtd. 10¾-in. csg. 600 ft.; drlg. Wlx. 3,696 ft.

Itawamba County

G. C. Grasty et al's No. 1 Ky. Lbr. Co., 1,320 ft. E, 660 ft. S, C Sec. 7-10s-10e. Twisted off D.S.; akd. 24 ft. S and spd.; set 10¾-in. csg. 170 ft.; set 1,500 ft.; T. Trenton L. 1,690 ft.; drlg. 2,257 ft., sdy. L.

Kemper County

M. R. Crabb et al's No. 1 W. T. Caldwell, NW SE Sec. 25-9n-15w. 10¾-in. csg. 96 ft.; set 6-in. csg. 1,320 ft.; T.D 1,640 ft.; acid. with 1,000 gal.; S.D. W.O.

Lamar County

Miss.-La. Oil Synd.'s No. 1 Simmons, 1,020 ft. N, 56 ft. W, SE cor. NE Sec. 32-3n-14w. S.D. 920 ft. (cor. T.D.).

Madison County

Ralph A. Johnston's No. 1 Ray & Dinkins, C SW SW Sec. 14-10e-3w. Loc.

Monroe County

Willmut G. & O. Co.'s No. 1 Robert• NW¼ Sec. 18-13s-17w. D.S.T. 2,410-30 ft.; Amory gas zone, dry; S.G. 2,844-52 ft.; hard cemented sd., odor oil 2,821-72 ft.; D.S.T., no results; ran Schlumberger and set 7-in. csg. 2,810 ft.; T.D. 2,879 ft.; flwd. small amt. gas and bailed to bttm.; shut in and opened well intermittently; no pressure inc.; prep. shoot sd. section; S.D.; W.O.

Pike County

S. R. Crouch's No. 1 Cupit, 360 ft. N 660 ft. W, SE cor. NE SW Sec. 25-2n-7e. Set 6-in. csg. 729 ft.; S.D. 2,390 ft.

Prentiss County

Home Dev. Co.'s No. 1 Mrs. A. Aller Sec. 8-7s-9e. Drlg. 1,625 ft.; no report.

Sharkey County

Eureka Pet. Co.'s No. 1 W. H. Cooper, 1,980 ft. S, 660 ft. W NE cor. Sec. 13-14n-6w. Set 10¾-in. csg. 571 ft.; W. O.C.

Simpson County

Cleve Love et al's No. 1 N. E. Garner, 300 ft. N and E of C Sec. 1-10n-17w. O.W. D.D.; O.T.D. 3,145 ft.; set 10¾-in. csg. 871 ft.; drlg. sdy. sh. 4,461 ft.

Warren County

W. O. Allen's No. 1 J. W. Culley, 1,980 ft. NW cor., NW Sec. 6-13n-3e. R.U.

H. C. Cummings et al's No. 1 T. H. Morrissey, C E½ W½ NE Sec. 8-17n-2e. Spud. and S.D. 20 ft.; W.O. fuel.

Yazoo County

Harry Hanbury et al's No. 1 Brooks, SW Sec. 17-10-2. Loc.

Hill & Hill et al's No. 1 Kinkead Plantation, 1,796 ft. SE cor. NE¼ Sec. 31-11-3. 7⅝-in. csg. 138 ft.; rep. rotary; drlg. 5,290 ft.

Hassie Hunt's No. 2 Ida Fair, C SE SW Sec. 13-10-3. Set 7-in. csg. 4,554 ft.; Woodruff sd. 4,562-83 ft.; ran 2½-in. tbg. 4,547 ft.; swbd. in and flowed 14 B.P.H. and went dead; swbd. in and comp.; 380 B.P.D., ¾-in. ck.; T.D. 4,593 ft.

Hassie Hunt's No. 1 A. G. Johnson, C NE NE Sec. 14-10-3. Drlg. bl. sh. 4,425 ft.

Hassie Hunt's No. 2 A. G. Johnson, C SE NE Sec. 14-10-3. Set 16-in. csg. 80 ft.; W.O.C.

Edgar Johnson's No. 2 Brumfield, C SW SE Sec. 2-10-3. Woodruff sd. 4,760-82 ft.; set 7-in. csg. 4,759 ft.; W.O.C.

Jones & O'Brien Bros.' No. 1-C Stevens, C SE NE Sec. 11-10-3. Drld. fault; T. chalk 4,493 ft.; no Woodruff sd.; T.D. 4,690 ft.; P.B. 2,030 ft. and sdtrkd. out 1,830 ft.; drlg. directional hole 4,686 ft.

Kingwood Oil Co.'s No. 1 R. E. Wilburn, 330 ft. NE cor. Sec. 31-12n-3e. M.I.M.

Robt. P. Lake's No. 1 Exum Est., C SW NE Sec. 13-11-2. Drlg. bl. sh. 3,975 ft.

J. R. Lockhart et al's No. 1 Frank Brooks, W½ SE NW Sec. 17-10-2w. T. chalk 4,964 ft.; T. sd. 5,047 ft.; cd. 5,051-55 ft.; cores rec. 5,047-51 and 5,110-25 ft.; showed salty taste; T.D. 5,134 ft.; (cor.); S.D. reported arng. deepen to 6,500 ft.

Nelson Bros.' No. 1 S. S. Stoner, C SE NW Sec. 2-11-5w. Loc.

Slick-Urschel Oil Co.'s No. 1 Slick, 2,075 ft. S, 670 ft. W NE cor. NW¼ Sec. 11-10-3. Drlg. 2,026 ft.

Union Producing Co.'s No. 1 Geo. Herron, C NE SW Sec. 11-10-3. R.U.

Union Prod. Co.'s No. 4 Perry, C SW NE Sec. 24-10-3. Set 16-in. csg. 50 ft.; drlg. bl. sh. 4,306 ft.

Union Prod. Co.'s No. 1 Stevens, C NW NW Sec. 13-10-3, O.W.W.O., O.T.D. 6,112 ft. P.B. 4,973 ft.; **set 1st retainer** 1,820 ft.; perf. 4,808-10 ft.; **2nd retainer** 4,898 ft.; recomp. 750 B.P.D.; 50% S.W.; ¼-in. ck.; went dead; S.D.; W.O. S.R.

Union Prod. Co.'s No. 10 Stevens, C NW NW Sec. 12-10-3. Woodruff sd. 4,769-4,804 ft.; set 7-in. csg. 4,842 ft.; T.D. 4,845 ft.; W.O.C.

Union Prod. Co.'s No. 13 Stevens, C SW NW Sec. 12-10-3. Set 10¾-in. csg. 598 ft.; Woodruff sd. 4,830-60 ft.; D.S.T. 4,831-4,916 ft. rec. 1,250 ft. oil and 85 ft. stained S.W. 10 min.; set 7-in. csg. 4,505 ft.; T.D. 4,916 ft.; W.O.C.

Union Prod. Co.'s No. 6 Woodruff, C SW NW Sec. 13-10-3. Set 16-in. csg. 67 ft., 10¾-in. csg. 1,213 ft.; Woodruff sd. 4,497-4,502 ft.; D.S.T. 4,492-4,532 ft.; rec. 880 ft. oil in 10 min.; drld. Stevens sd. 4,859-72 ft.; tstd. S.W.; T.D. 4,931 ft.; P.B. 4,550 ft.; set 5½-in. csg. 4,548 ft.; perf. 4,493-4,506 ft.; ran tbg.; swbg.

Whigate Oil Co.'s No. 1 Robertson, 330 ft., NW cor. Sec. 20-10-2. T.D. 5,012 ft.; Woodruff sd. 4,989-5,008 ft.; odor and salty taste; S.D.; W.O.

ALABAMA

Mobile County

W. L. McClanahan's No. 1 J. A. Stafford, 300 ft. N, 150 ft. W SE cor. NW SW Sec. 24-7s-3w. R.U.

FLORIDA

Dade County

Wm. G. Blanchard et al's No. 1 Everglades, 200 ft. E, 100 ft. N, SE cor. Sec. 31-53s-35e. Set 16-in. csg. 140 ft.; drlg. L.&sh. 910 ft.

Levy County

Florida Oil Discovery Co.'s No. 2 Cedar Key, SW SW NE Sec. 9-15s-13e. T.D. 5,266 ft.; S.D. 4,150-79 ft. **Set 4-in. csg.** 4,230 ft.; perf. 4,150-79 ft.; **ran tbg. and** swbd. slight trace oil and S.G.; bailing S.W.; prep. perf. csg. 4,119-32 ft.

Harkey & Houck's No. 1 Crapps, Sec. 15-14s-17e. T.D. 900 ft.; no report.

Nassau County

St. Mary's River Oil Corp.'s No. 1 Hillard Turpentine Co., NW cor. **NW SE** Sec. 19-4n-24e. Reported S.O. 4,795-4,810 ft.; S.D. 4,814 ft. T.D.

Suwannee County

Wm. G. Blanchard et al's No. 1 Lucy Cotton, 774 ft. N, 163 ft. W, SE cor. NE Sec. 35-3s-11e. S.D. 184 ft.

J. W. Phillips Oil Explrn. Co.'s No. 1 Shilkett, NW NW Sec. 14-4s-14e. S.D. cor. T.D. 369 ft.

GEORGIA

Clinch County

Georgia Resources, Inc.'s No. 1 Gilligan, C Land Lot 200, 12th Land Dist. On running 10-in. csg. bottom joint parted; drlg. by csg. 736 ft.; S.O. 390-410 ft.

Montgomery County

E. O. Moses' No. 3 Montgomery, SW R.R. station, Uvalda Sur. Drlg. sh. 750 ft.; no report.

NORTH TEXAS WILDCATS

Archer County

C. B. Christie & Phillips' No. 1 H. H. Taylor, 330 ft. from S and 3,358 ft. from W lines of Harvey Cox Sur., Abst. 67. Drlg. 5,075 ft.

C. W. Clark et al's No. 1 D. D. Strange, 150 ft. from S and E lines Lot 31, Block 5, Clark & Plumb Sur., SE of Archer City. Drlg. 758 ft.

Clark-Cox's (Deep Rock Oil Co.) No. 1 J. M. McCarty, NW cor. C. C. Brown, Abst. 20. M.I.M.

Continental Oil Co.'s No. 1 L. F. Wilson, NE cor. SW¼ Sec. 20, H.&T.C. Sur. (1½ mi. E of Hull-Silk). T.D. 5,250 ft.; running 6⅝-in.

Geo. B. Golden's No. 1 J. C. King, NE cor. Sec. 2422, T.E.&L. Sur. Loc.

Hedrick Oil Co.'s No. 1 L. W. McCrory, SW cor. Lot 2, Blk. 94, A.T.N.C.L. Sur., 2½ mi. SE of Mankins pool. Spudded.

Bert Ligon's No. 1-D White, NE cor. Lot 1, Blk. 40, A.T.N.C.L. Sur. (1½ mi. E of Hull-Silk field). Bos. 4,369-92 ft.; 6⅝-in. 4,369 ft.; W.O.C.

Roeser & Pendleton's No. 1 J. R. Parker, Sec. 11, Blk. 3, H.&T.C. Sur. (north outpost to Mankins deep pool). Drlg. 2,200 ft.

E. F. Scott's No. 1 York, SE cor. SW¼ Sec. 1861, T.E.&L. Sur. Spudded.

Clay County

L. T. Burns' No. 1 J. G. Mullins, 330 ft. from N and E lines of N 160 ac. of Sec. 2617, T.E.&L. Sur. Drlg. 2,200 ft.

Dresser et al's No. 1 C. H. McClellan, C. F. Stanley Sur., Abst. 407 (6 mi. E of Wichita Falls). Drlg. 1,100 ft.

Mid-Union Drilling Co. et al's No. 1 S. E. Oliver, SE cor. Sec. 2646, T.E.&L. Sur. (4,100-ft. test). Bldg. road; loc.

Shell Oil Co., Inc.'s No. 1 M. L. Henderson, 6,000-ft. test, in Blk. 3046, T. E.&L. Sur. S.S.O. 3,419-36; S.S.O. 3,507-19 ft.; S.S.O. 3,573-85 ft.; S.S.O. 3,685-57 ft.; T.D. 3,824 ft.; cmtd. 4½-in. 3,494 ft.; swab 245 bbl. oil and 37 bbl. S.W. in 24 hrs., 3,494-3,545 ft., T.D. by P.B., pumping for R.R. Com. test.

Cooke County

Mudge Oil Co.'s No. 1 Bonner, 330 ft. from S and E lines of east 30 ac. of west 61 ac. of south 101 ac., A. Emanuel Sur., Abst. 1196. Drlg. 1,400 ft.

C. E. Sykes' No. 1 H. Christian, 1,000 ft. from W and SW lines, J. P. Bailey Sur., Abst. 70. Drlg. 2,785 ft.

Cottle County

J. E. Burns et al's No. 1 J. E. Moss, Sec. 5, Blk. L, A. Forsythe Sur. Jnkd. 725 ft.; akd. 20 ft. S; S.D. 1,823 ft.

Foard County

Ohio Oil Co.'s No. 1 M. E. Rasberry, NE cor. Sec. 26, S.P. Survey, 5,000-ft. test. Loc.

Hardeman County

Carter & Taylor's No. 1 Norton, NW cor. 91-ac tr. in Blk. 3, Robt. Young Sur., 16 mi. N of Quanah. S.D. 256 ft.

Norris & Gilbert's No. 1 Robert Weekley, SW SE Sec. 87, Blk. 16, H.&T.C. Sur. Drlg. 900 ft.

Jack County

J. B. Cooper and Paul P. Stead's No. 1 Mathis, J. H. Nesmith Sur., Abst. 1563. Cd. oil sd. 2,873-79 ft.; T.D. 2,883 ft.; est. 250 B.O.P.D.; swab 100 bbl. in 24 hrs.; pumping on R.R. Com. test est. 10 bbl. per hour.

W. L. Forbes et al's No. 1 N. W. Davis, B.B.&C. Sur. Drlg. 1,920 ft.

Hanlon-Buchanan, Inc.'s No. 1 A. T. Smith, NE cor. Sec. 2, S.P.R.R. Sur., Abst. 2178. Drlg. 3,710 ft.

Harper Pet. Co.'s No. 1 J. W. Kinder, SW¼ Sec. 2667, T.E.&L. Sur., Abst. 762. T.D. 2,160 ft.; S.D.

H. R. Smith's No. 1 I. G. Yates, SW cor. John Holderman Sur., 6 miles NW Jackboro. Spd.&S.D.

Staley Oil Co.'s No. 1 John Barry, SE cor. of N 164 ac. of Sec. 2642, T.E.&L. Sur. Drlg. 80 ft.

Montague County

W. H. Gant and Continental's No. 1 J. L. Brown, Sec. 58, E.T.R.R. Sur. 6⅝-in. 6,843 ft.; brkn. sdy. L. S.O. 6,843 ft.; treat. 8,000 gal. acd.; test showed O.& G. 7,036-56 ft.; T.D. 7,333 ft.; rng. 5½-in. lnr. at 6,843-7,333 ft.; fsg. swb. and 5,800-ft. line; set retainer 6,500 ft.; perf. 52 shots 6,000-6,400 ft.; bailing mud.

Gibson & Jenning's No. 1 Holt, NW cor. Blk 36, Kaufman C.S.L. Sur. Loc.

W. K. Jones' No. 1 E. E. Johnson, Sec. 5, Abst. 230, E.T. Sur. (5,500-ft. test). Core S.S.O. 3,759-73 ft.; test mud on D.S.T.; drlg. 4,920 ft.; S.D.

W. B. Omohundro's No. 1 Seay, Sec. 32, Blk. 4, H.&T.C. Sur. (5,500-ft. test). Cong. 5,696-5,706 ft.; taking D.S.T.

Wm. J. Payne's No. 1 T. M. Baker, NW¼ Lot 42, W. J. Wells Sur., Abst. 844, 5,000-ft. test. Loc.

Stanolind O. & G. Co.'s No. 1 McCool, NW cor. Jacob Lenow Sur. (½-mi. W outpost to Rogers field). Drlg. 4,800 ft.

Wichita County

E. C. Harlin, Jr., et al's No. 1 I. H. Kemner, SE cor. Blk. 28, Lge. 1, Denton Co. Sch. Lds. (5,200-ft. test). R.U.R.

Wilbarger County

H. G. Gay's No. 1 A. S. Ross, 1,320 ft. EL, 660 ft. SL, Sec. 65, Blk. 15, H.& T.C. Sur. Drlg. 2,280 ft.

Young County

F. T. Conner's No. 1 Wright McClatchey est., SW cor. Sec. 284, T.E.&L. Sur. Drlg. 912 ft.

Cosden Pet. Corp.'s No. 1 W. E. Stasie est., NE part of R. M. Burton Sur., Abst. 8, 7 mi. SE Graham. 4,200-ft. test; tight hole. 6⅝-in. 3,734 ft.; tstg. 3,535-85 ft.; est. 10,000,000 cu. ft. gas; S.D.O. 3,894 ft.

H. W. Dyer's No. 1 M. G. Cheney, M. L. Terry Sur., Abst. 1261. S.D. 700 ft.

K. R. March's No. 1 Ed. Burton, NE cor. Blk. 99, J. A. True Sur., Abst. 1640, 4 mi. SE Graham; 4,250-ft. test. Running 6⅝-in. to 3,804 ft.

A. T. Strong et al's No. 1 E. C. Stovall, Sec. 2946, T.E.&L. Sur. (4,800-ft. test). Drlg. 4,672 ft.; H.F.W.

James Toughy et al's No. 1-C F. Akers. W. McClure Sur., Abst. 183, S.S.C. 3,994-4,005 ft.; S.O. 4,005-20 ft.; est. 4,000,000 cu. ft. gas; tstg.

Geologists Can Do More Than Discover Oil

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geologist is let out. There is no particular point in discussing the right and wrong of this procedure, but there is considerable necessity of considering its advisability. Granted that no company is warranted in keeping a staff on its pay roll which is not earning its way, there is still the possibility that by letting trained men leave it is throwing money away.

Where did the geologists get their training? They got certain fundamentals at the university or college which they attended. Unless the college happened to be in the oil country, these fundamentals had very little direct application to oil. In fact, in many colleges, oil geology is not considered quite respectable, in spite of the fact that there are more geologists employed by the oil industry than by all other industries, the colleges and surveys combined. They are highly trained and efficient people and they got their training from the oil companies, in the field, in the office and in the laboratory. The companies utilized a part of this training but only a part. The exploratory phases of geology do not constitute the only valuable phases by any means.

How Emphasis Shifts

When there is a surplus of reserves in sight, production technology develops rapidly. In a period of falling prices, or even of a threat of falling prices, the emphasis must be placed on reducing costs. Improvements are made in production methods, either by more efficient equipment or by more efficient secondary-recovery methods. This is the task of the engineer. However, petroleum engineers have changed during the past few years. Formerly, the majority of petroleum engineers were mining engineers who had had quite a lot of geological training. Today, they are being replaced by mechanical engineers whose college courses did not permit much geology if they were to learn the essentials of mechanical engineering. Consequently, as the engineer goes more into the purely engineering phases of production, there is left a growing field for the geologist.

If producing oil consisted solely of getting it out of a standard tank or reservoir, the geologist would not be needed, but the oil reservoirs are not standardized. They are complex geological bodies. Much must be learned about the nature of reservoirs. What is the good of a well-spacing formula based on porosity and permeability of a small piece of core when the reservoir is crossbedded in such a way that only a part of the sand is tapped by wells, even on a 10-acre spacing? Can we say definitely that reservoirs are so uniform that we can set up a 660-ft. spacing, or a 660 by 1,320-ft. spacing and drain the sand? It is conceivable that a 200 by 2,000-ft. spacing would be more effective. That is not an engineering problem so much as a geological one. It requires a knowledge of sedimentary processes and of geochemical processes dealing with later changes in sediments.

The problems of heaving shales and of drilling muds are also in part geological. They may be solved by purely mechanical means but they would undoubtedly be solved more effectively and cheaply if we knew the geological and mineralogical basis of the problem. In some cases, trouble is encountered in shales that swell when they come in contact with water; in others the shales become slippery and slide. The remedy will differ, once the cause is known.

Geologists have proved very effective in preventing engineers from passing up productive sands and in saving expenses involved in unnecessary testing of other sands. Does their usefulness end when the hole is completed? Some companies have found that they can be very useful in cooperating on production problems, but it is probably safe to say that geologists spend enormously more time studying the barren formations above the pay than they do the productive horizon which pays off.

Of the millions of acres leased by companies, many hundreds of thousands have less than the normal chance of obtaining production. It is true that much of this acreage may have been picked on the basis of geology—or of the knowledge of geology at the time the acreage was acquired. Geology does not change, but our knowledge of it grows. Information may now be available which would cause the relinquishing of much acreage and consequent saving of rentals. Granted that a good forty might be dropped once in a while. Does that not happen anyway? Many times farmouts prove better than acreage drilled by the lessees. The fact remains that a periodical check of acreage by a geologist, preferably before rentals are paid, would more than pay for its cost. But many geologists complain that the company does not pay them for saving money. They get no credit for that, they are judged on the basis of the money they spend and the results of that expenditure.

At first glance, geologists would appear to be of little use around a pipe line. Of course, they could help in the surveys before the line is laid, but relatively few lines follow geology. They follow the oil and the refinery, which is necessary. However, once a line is in there is considerable trouble through corrosion. Lines laid across country which is badly farmed frequently find themselves crossing gullies instead of solid ground. Breaks occur and there is considerable expense involved in patching them together. Dealing with corrosion is a chemical problem but the causes of corrosion are geological. Similarly, gullying is a geological problem. The prevention of these two evils that beset the pipe lines may be less spectacular than dealing with them after they arise, but it is more economical.

Adaptability of the Geologist

If there is one characteristic that applies to almost all geologists more than any other, it is adaptability. A man who can spend years acquiring a knowledge of the geology of Wyoming and then find that he has to go into a completely foreign area, such as Illinois, must be adaptable. He must be able to change, almost overnight, his conceptions of structures. Areas that he would not consider for a moment in one state become the choicest parts of another.

In the same way, his knowledge of the fundamentals of geology permits him to change from exploratory work into any other place where earth science is required. When a company has a trained staff which can be transferred temporarily into other lines, it would seem wiser to transfer them than to let them out, so that they can take all of the detailed knowledge they have acquired to competitors and thus increase the surplus of oil which made retrenchment of exploratory activities advisable. Yet, a 10-cent drop in the price of crude will probably see the decimation of the ranks of employed geologists followed by a frantic exploration of new areas.

This has happened in the past, but conditions were different then. Today, there is a great quantity of known but undeveloped reserves. There is also the threat of stringent regulation of the industry if conditions get out of hand and nothing will tend to let things get out of hand more than a group of trained geologists out of work and looking for structures. Even if the whole geological staffs can not be retained by transferring the superfluous members, there is also the fact that a few thousand dollars spent on collating the enormous quantity of information possessed by the companies will probably pay higher returns than anything that could be done today.

The oil industry has had periodic oversupply and shortage but in each period of oversupply, it has generally reacted by turning loose its geologists. Then, later, it rebuilds the staff either by rehiring or by getting younger men and training them again. If geologists were capable only of exploratory work and if practical experience counted for little, this procedure might be justified. As it is, it would seem much better to utilize the men trained in the earth sciences for the other jobs that they can do, technical, administrative and executive, rather than considering only a part of their abilities. The oil industry changes so rapidly that a man must be adaptable to keep abreast. The companies require their geologists to keep not abreast but ahead of the industry. When they succeed in doing so too well they could be used more effectively in helping other branches than in going out independently to develop reserves which are temporarily not wanted.

Dry Holes Limit Music Mountain Pool

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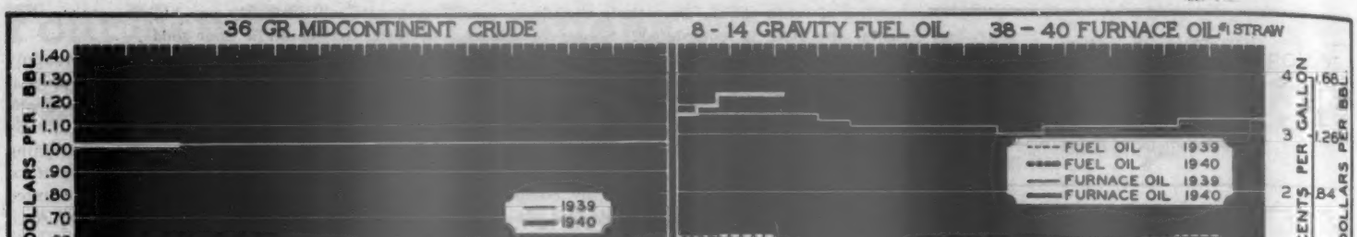
ease paraffin troubles, the most serious operating problem encountered by the producers. The crude is heavily paraffinic and steaming is required to run the oil virtually the year round. Gravity, color and distillation characteristics of a sample of Music Mountain crude oil follow: Gravity, 43.7; color, 7.5; v.p. at 100° F., 7; distillation, i.b.p., 81° F.; 5 per cent, 160° F.; 10 per cent, 204° F.; 20 per cent, 276° F.; 30 per cent, 358° F.; 35 per cent, 400° F.; 61 per cent, residue; 4 per cent, vapor loss; residue viscosity (Saybolt), 97.

Only six operators have drilled flowing wells in the pool: Niagara Oil Corp., a subsidiary of Forest Oil Co., largest Bradford field producer; Minard Run Oil Co., Williams Producing Co., Healey Petroleum Corp., C. G. Duffy and Eisert Oil Co. Three gas wells have been drilled on the property of Williams & Mallory and locations have been staked for three more wells. Only one property deal in the proven area has been recorded to date. This was the purchase of the 50-acre Hill and others' property in Warrant 3435 from F. D. Hill and J. F. Shaw of Kane, G. R. McKinney, of Bradford, and E. K. Kane and Ray D. Kane, of Kushequa, by the Eisert Oil Co. of Olean, N. Y. The consideration was reported but unconfirmed as $300,000 and the property continued under one-half royalty owned by G. B. Mayo of Smethport and the J. W. Brennan heirs.

Accompanying map shows the pool and its approximate location with respect to the Bradford field proper. It lies outside the boundaries of the Bradford field as defined by Dr. Charles R. Fettke for the Pennsylvania Topographic and Geologic Survey in Bulletin M-21. Nevertheless, quite a number of wells have been drilled in this locality since the Bradford field was discovered in 1871 and the most extraordinary feature of the Music Mountain pool is that the Sliverville sand lies about 250 ft. above the top of the Bradford Third sand from which other wells in this area produce. The Niagara Oil Corp. was drilling what was intended to be a Third sand core test when it unexpectedly struck a well of gusher proportions in the previously unknown Sliverville sand at 1,639 ft. This was on August 24, 1937. A short time later demand for Pennsylvania crude declined substantially and drilling in the new pool slowed down and many wells were shut in, some for as long as 14 months. Shallowest of the reported gushers is Minard Run's No. 107, which topped the Sliverville at 1,263 ft., and the deepest is C. G. Duffy's No. 7, at 1,820 ft.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Activity in Group 3 Gasoline Buying Grows; Lubricant Prices Drop

By T. F. SMILEY

A BETTER tone characterized the Group 3 gasoline market this week. The improvement did not manifest itself in lifting of quotations, but buyers said they encountered increasing refusals to grant concessions, and sales managers generally reported a brisk pickup in orders. Some refinery stocks were cleaned up and less low-octane material was seeking outlets.

March normally witnesses a sharp rise in gasoline demand, and there is no reason to suppose that 1940 will be an exception to the rule. In 1938, a Bureau of Mines report shows, gasoline demand was distributed by months as follows, the figures representing per cent: January, 6.8; February, 6.3; March, 7.7; April, 8; May, 9; June, 9; July 9.1; August, 9.8; September, 8.8; October, 9; November, 8.6; December, 7.9.

Recognizing the Realities

There was little disposition among refiners this week to belittle the unfavorable potentialities residing in the nation's excessive stocks or the difficulties presented by uneconomic marketing practices; and there was general belief that there might not be much better prices for several weeks, although steady upturn in volume of business was looked for.

A disturbing factor that is attracting wider attention has developed out of the business conducted by refiners who have built small plants in new producing fields and dispose of their output by truck. The prices received by these refiners are relatively high as a rule, for they can get from dealers within their trading area at least a quarter cent more than the ruling tank-car quotations, since there are no freight charges to be included. However, it often happens that one of these refiners finds himself with more gasoline than he can dispose of to his regular customers. He has no storage facilities, and the common practice in such cases is to take whatever price is readily obtainable from some other refiner or from a broker. These sales of underpriced material reach proportions that are making them an increasingly serious market problem.

Lubricating oils, which had been holding their ground well for weeks in spite of crumbling prices in the East, had to yield in the past week, bright stocks and neutrals declining a cent a gallon all along the line. The drop in quotations was not so much an evidence of weakness, refiners said, as it was an expression of the inevitable technical reaction after the sensational rise in this division of the market since last August. Shipments continued in satisfactory volume.

Little change was observable in the natural gasolines. Limited quantities of the 26-70 grade were being called for, and manufacturers did not expect much improvement until the spring demand for refinery gasoline gets well under way. Refiners were buying stabilized grades liberally, however, a growing number evidently deciding it was advantageous to use this material, since at current levels it costs less than the refinery product it displaces. The 18, 14, and 12-lb. grades were moving in sufficient volume, manufacturers said, to prevent accumulation of distress inventories in Oklahoma. Inquiries received in the past week pointed to a rise in export business.

Heating-Oil Demand Slackening

Consumption of heating oils was slackening seasonally, but prices showed little or no change. Notwithstanding the less urgent industrial demand for burning oils, quotations were steady and stocks were in satisfactory shape. Mid-Continent refiners had 3,893,000 bbl. of residual fuel oil at the end of February, compared with 5,142,000 at the close of February 1939, a reduction of 30 per cent. Mid-Continent gas-oil and distillate stocks were 1,608,000 bbl., compared with 1,737,000 in 1939, a reduction of 8 per cent. Kansas refiners were sold up on heavy industrial fuel the past week, buyers being unable to get even a quotation.

Wax continued active, with the price for 124-126 crude scale unchanged at 5½ cents.

Refined Oil Market Barometer

Evidences of spring upturn in gasoline lacking except in Mid-Continent, where pickup in orders was reported. Demand for heating oils slackens, but prices fairly steady. Lubricating oils continue to soften in East, and Mid-Continent prices break for first time since rise started last fall. Naturals waiting for improved gasoline demand. Wax active. Heavy industrial oil easier.

MID-CONTINENT. Gasoline more active. Lubricating oils off. Heating oils softening.

EAST COAST. Gasoline weak. Fuel oil and kerosene firm. Bunker C fuel oil firm.

GULF COAST. Weakness of gasoline increases. Kerosene tight. Lubes and heating oils holding.

PENNSYLVANIA. Lubricating oils continue decline. Gasoline easy. Scale wax softer.

CALIFORNIA. Gasoline, kerosene, fuel and diesel oils soft. Natural gasoline weak.

CHICAGO. Demand for high-octane gasoline improving. Light fuels softer. Heavy fuels unsettled.

Weakness of Gasoline Market In East More Pronounced

By H. STANLEY NORMAN

NEW YORK, Mar. 5.—The weakened condition of the motor-fuel market on the Atlantic Coast became more apparent last week, although the breaks reported from Philadelphia were mostly in the less popular grades. The market for quality motor fuel is being maintained at a fairly stable level despite mounting stocks and prospects that the industry will be shouldering at least 100,000,000 bbl. of gasoline before the summer consuming season develops.

There appeared to be slightly less pressure on suppliers of fuel oil last week as temperatures in this and other northeastern sections moderated somewhat. Prices prevailing in the preceding week continued firm with particular emphasis on kerosene. Dealers in both New York and Philadelphia were offering 5¾ cents per gallon without attracting new supplies. Tank-car prices quoted in New York ranged up to 6½ cents per gallon for spot buyers but contract purchasers are protected by a top of 5 6/10 cents per gallon for the next few months.

Supplies of Nos. 2 and 4 fuel oil are closely held at a tank-car price of 5.1 to 6 cents per gallon. Customers are still prevented from obtaining maximum volume under their contract spreads because of limitations imposed by refinery suppliers, Probably the largest supplier in the northeastern section of the country continues its middle-February policy of withholding spot-market quotations because the company is not in position to make delivery against other than contract shipping instructions. Several other large refiners who continue to quote on the open market admit that they are not in position to make deliveries to new customers on a regular basis.

Gasoline

Regular gasoline, meeting 72-74-octane specification, is quoted in the New York tank-car market at 6½ to 7.7 cents per gallon, while the few suppliers still quoting on 65-octane-plus motor fuel are asking from 6½ to 6¾ cents per gallon. The price at New York and Philadelphia for 60-64-octane motor fuel most generally heard is 6¼ cents per gallon, although some suppliers continue to ask up to 6½ and as high as 6.7 cents. Most of the spot business, however, is currently moving at the low of the range.

There has been no new business reported in either the export or coastwise markets from the Gulf and prices for both gasoline and fuel oil are generally unchanged. Lack of business, however, has made it difficult to accurately gage the market. Some observers indicate that current quotations could be shaded considerably on a firm offer for substantial quantities of motor fuel. Refiners on the Gulf continue to insist upon acceptance of part cargoes of motor fuel when bidding for fuel-oil inquiries.

Regular (72-74-octane, leaded) gasoline on the Gulf Coast is quoted at 6 to 6¼ cents per gallon. Unleaded 65-octane motor fuel is quoted at 5¾ to 6 cents.

Fuel Oil

Fuel-oil prices on the Gulf are well maintained at 4¼ to 4½ cents for kerosene and 4⅛ cents for No. 2 fuel oil. Bunker C fuel oil is held at a range of 90 cents to $1.05 per barrel to the marine trade and cargo purchasers are asked from $1 to $1.05 per barrel. Marine diesel oil is offered at $1.70 per barrel on the Gulf and at a range of $2.10 to $2.20 per barrel at New York and other North Atlantic ports. Bunker C fuel oil is held at New York for $1.50 per barrel and only a few suppliers are in position to quote.

Lubricating Oils

Indications that the western Pennsylvania lubricating-oil market was due for a revival have not materialized so far. Refiners reported that inquiries were at a standstill and that movement was strictly limited and confined to contract accounts. Prices on some grades of neutrals and bright stocks tapered off as much as 2 cents per gallon. Neutral oil of 200 viscosity, 25-pour test and 150 viscosity, 25-pour test, settled to the low of last week's market range and was offered at 27 and 25 cents per gallon, respectively, at most Pennsylvania refineries. The lower-pour-point bright stocks were offered 2 cents per gallon below the preceding week's quotations but the most popular grade, 25-pour test, was unchanged at a range of 25 to 27 cents per gallon.

Scale grades of wax were off approximately ¼ cent per pound in the spot market, but fully refined grades were holding their position without particular difficulty.

There has been practically no export business in either lubricating oils or waxes since the middle of January and stocks are growing weekly. The rate of production has been maintained fairly near the levels existing during the final quarter of 1939. The need of a prompt turnover in products from some of the western Pennsylvania plants is clearly demonstrated in the prompt response of prices to any slackening of movement.

Tanker rates from the Gulf to North Atlantic ports continue at unchanged levels. Boat owners are asking up to 74 cents per barrel for cargoes of light fuel oil, 71 cents for kerosene and 68 cents for motor fuel. The asking prices are slightly higher than the last rates paid but boats are difficult to locate.

Export Market

Some of the recent delays in export movement of lubricating oil and the backing up of sold stocks in Atlantic seaboard storage were explained last week. In letters from the British Embassy at Washington to leading American oil companies request was made to delay further shipments of lubricating oil to Belgium, the Netherlands and Denmark until advised by the embassy that navicerts could be granted again. The Ministry of Economic Warfare at London contended that stocks of lubricating oils in the three countries were abnormally high and expressed the hope that "you can see your way clear to refrain from shipping lubricating oil to all three countries." The action is obviously intended to prevent lubricating oils from reaching Germany through these countries.

The British Embassy disclosed that the Ministry of Economics had reached agreements with Norway and Sweden on the volume of lubricating oils to be imported and that navicerts on shipments to these two neutrals were being issued without delay.

A. P. I. Weekly Refinery Statistics

Week Ended March 2, 1940

	Capacity reporting (per cent)	Daily crude runs (bbl.)	Total gasoline stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Residual fuel-oil stocks (bbl.)
East Coast	100.0	540,000	19,624,000	6,457,000	7,865,000
Appalachian	87.3	125,000	3,924,000	400,000	648,000
Ind., Ill., and Ky.	90.7	555,000	16,723,000	2,641,000	2,760,000
Okla., Kans., and Mo.	81.6	272,000	8,807,000	1,096,000	1,969,000
Inland Texas	50.3	117,000	2,132,000	277,000	1,494,000
Texas Gulf	90.0	822,000	16,575,000	3,311,000	5,603,000
Louisiana Gulf	97.8	120,000	3,159,000	744,000	1,012,000
N. Louisiana and Ark.	55.0	42,000	756,000	216,000	475,000
Rocky Mountain	54.2	38,000	1,702,000	158,000	495,000
California	90.0	451,000	18,122,000	9,040,000	79,190,000
Total reported	86.4	3,082,000	91,524,000	24,340,000	101,511,000
Est. unreported	.....	363,000	6,840,000	675,000	2,010,000
*Est. total	.....	3,445,000	98,364,000	25,015,000	103,521,000
*Est. total previous wk.	.....	3,490,000	96,719,000	25,390,000	103,419,000
*March 3, 1939	.....	3,230,000	85,543,000	28,636,000	112,524,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended February 24, 1940	240,836,000 barrels
Week ended February 17, 1940	*239,838,000 barrels
Week ended February 25, 1939	271,758,000 barrels

Figures do not include stocks of heavy, unrefinable California crude. *Revised.

Gulf Coast Markets

HOUSTON, Tex., Mar. 5.—Weakness of refinery gasolines on the Gulf Coast reached such a point the past week that sellers almost generally were withdrawing quotations while adopting a policy of waiting for offers. This marks a further breakdown of attempts by refiners to maintain a market in the face of overwhelming supplies and lack of new business. While there is little

(Continued on Page 111)

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of March 5, 1940

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dlr.	Incl. tax	tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	12.1	4.0	8.5
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	12.7	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	12.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	10.4
Minneapolis	16.5	14.5	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.0
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.6
Grand Rapids	13.2	10.3	4.0	9.0
Saginaw	14.8	13.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	14.3	5.0	†10.0
South Bend	16.8	15.3	5.0	†10.0
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	12.0	4.0	7.9
Wichita, Kans.	13.3	11.1	4.0	7.0

*State tax 2 cents, 1-cent city tax, and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective December 12, 1939, f.o.b. Chicago tank-wagon prices: Standard heater oil, 1-99 gal., 9 cents; 100-149 gal., 8 cents; 150 gal. and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex Grade A, 1-399 gal., 5.5 cents; 400 gal. and over, 4.5 cents. Stanolex Grade B, 1-799 gal., 5.25 cents; 800 gal. and over, 4.25 cents. Stanolex Grade C, 1-999 gal., 4.5 cents; 1,000 gal. and over, 3.5 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Cons'r tank wag.	Divided dlr.	Incl. tax	tank wag.
Ohio points	15.5	14.5	5.0	*13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Cons'r tank car	Dlr. tank wag.	Incl. tax	tank wag.
Atl'tic City, N. J.	11.6	12.7	4.0	8.1
Newark	11.6	12.7	4.0	8.1
Annapolis, Md.	13.35	14.35	5.0	9.5
Baltimore	12.75	13.75	5.0	7.5
Cumberland	14.15	16.15	5.0	10.0
Wash'gton, D. C.	11.00	12.0	3.0	9.5
Danville, Va.	14.95	17.45	6.0	11.5
Norfolk	13.75	16.25	6.0	11.0
Petersburg	14.05	16.55	6.0	11.7
Richmond	14.05	16.55	6.0	11.0
Roanoke	15.25	17.75	6.0	11.5
Charles'n, W. Va.	14.55	17.05	6.0	12.6
Parkersburg	13.85	15.35	6.0	11.2
Wheeling	14.85	16.75	6.0	11.8
Charlotte, N. C.	16.90	18.40	7.0	11.8
Hickory	17.45	18.95	7.0	12.3
Mt. Airy	17.30	18.80	7.0	12.2
Raleigh	16.65	18.15	7.0	11.5
Salisbury	16.95	18.45	7.0	11.9
Charleston, S. C.	14.75	17.25	7.0	9.25
Columbia	15.60	18.10	7.0	11.5
Spartanburg	16.30	18.80	7.0	12.2

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryand, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gal. or more under contract (contract not necessary in Baltimore), except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Cons'r tank wag.	Net dlr.	Incl. tax	tank wag.
Atlanta, Ga.	17.0	17.0	7.0	10.0
Augusta	17.5	17.5	7.0	10.0
Macon	16.5	16.5	7.0	10.0
Savannah	16.5	16.5	7.0	9.0
Birmingham, Ala.	18.5	18.5	8.0	9.0
Mobile	18.5	18.5	9.0	8.0
Montgomery	19.5	19.5	9.0	11.0
Jackson, Miss.	16.0	16.0	7.0	10.0
Vicksburg	16.5	16.5	7.0	9.5
Jacksonville, Fla.	17.0	17.0	8.0	8.0
Miami	17.0	17.0	8.0	8.0
Pensacola	18.5	18.5	9.0	8.5
*Tampa	21.0	18.0	8.0	8.0
Lexington, Ky.	16.5	16.5	6.0	10.0
Covington	14.5	14.5	6.0	9.5
Louisville	15.5	15.5	6.0	9.0
Paducah	15.5	15.5	6.0	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

*Temporary discounts to tank-wagon consumers in Tampa 3 cents per gallon below consumer tank-wagon price on Crown gasoline.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Cons'r tank car	Dlr. tank wag.	Incl. tax	tank wag.
Albany	12.6	14.2	5.0	8.3
*Met. N. Y.: Manhat., Bronx, Queens, Brklyn., Staten Island	12.7	13.7	5.0	8.5
Buffalo	13.1	14.5	5.0	7.9
Rochester	13.3	15.0	5.0	8.5
Syracuse	13.2	14.5	5.0	8.8
Portland, Me.	12.6	14.2	5.0	8.5
Manchester, N.H.	13.3	15.3	5.0	8.9
Burlington, Vt.	13.1	15.4	5.0	8.7
Boston, Mass.	11.5	13.0	4.0	8.5
Worcester	12.1	13.5	4.0	8.0
Hartford, Conn.	11.9	13.3	4.0	8.4
New Haven	11.8	12.8	4.0	7.5
Providence, R. I.	11.5	13.3	4.0	8.5

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and in New England points for tank-wagon delivery to the following: Annual purchases 10,000 gal. and under, tank-car price plus 2 cents per gallon; annual purchases 10,000 gal. up to 50,000 gal., tank-car price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gal., tank-car price plus 1 cent per gallon; annual purchases 200,000 gal. and over, tank-car price plus ½ cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gal. receive a discount of ½ cent per gallon.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Cons'r tank car	Dlr. tank wag.	Incl. tax	tank wag.
Philadelphia, Pa.	12.0	14.0	5.0	10.0
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	13.0	14.5	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	12.5	15.0	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.	...	13.5	5.0	10.5
Wilmington	...	14.0	5.0	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank truck	Serv. sta.	Incl. tax	tank wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ar'z.	20.0	21.0	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	†13.75
Spokane	21.5	22.5	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Includes 0.25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wag.	Dlr.	Incl. tax	tank wag.
Denver, Colo.	14.0	...	5.0	11.5
Grand Junction	17.5	...	5.0	15.0
Pueblo	15.0	...	5.0	9.0
Casper, Wyo.	16.5	...	5.0	11.5
Cheyenne	15.5	...	5.0	13.0
Billings, Mont.	18.0	...	6.0	12.0
Butte	19.0	...	6.0	13.0
Great Falls	18.0	...	6.0	12.0
Helena	18.5	...	6.0	12.5
Salt Lake, Utah	15.5	15.5	5.0	14.0
Boise, Idaho	21.1	21.1	6.0	16.0
Twin Falls	21.1	21.1	6.0	16.5
Albu'que, N. M.	14.5	...	6.5	10.0
Roswell	16.0	16.0	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Cons'r tank car	Dlr. tank wag.	Incl. tax	tank wag.
New Orleans, La.	14.75	17.25	8.0	†11.0
Baton Rouge	14.75	17.25	8.0	‡10.5
Alexandria	14.75	17.25	8.0	‡10.5
Lafayette	15.00	17.50	8.0	‡10.0
Lake Charles	14.75	17.25	8.0	‡12.5
Shreveport	13.50	16.00	8.0	‡9.0
Knoxville, Tenn.	18.00	20.50	8.0	13.0
Memphis	16.00	18.50	8.0	11.0
Chattanooga	17.50	20.00	8.0	12.0
Nashville	17.00	17.50	8.0	11.0
Bristol	18.25	17.75	8.0	13.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wag.	Dlr.	Incl. tax	tank wag.
Texarkana, Ark.	13.0	...	5.0	7.0
Fort Smith	14.5	...	5.0	7.5
Little Rock	16.75	...	7.5	8.0
Muskogee, Okla.	13.0	12.0	5.0	7.0
Oklahoma City	11.0	...	5.0	6.5
Tulsa	11.0	...	5.0	7.0

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Dlr.	Incl. tax	tank wag.
Omaha	16.5	12.9	6.0	9.5
McCook	16.5	13.9	6.0	9.0
Norfolk	16.5	14.4	6.0	9.5
North Platte	17.8	14.9	6.0	10.0
Scottsbluff	18.5	15.5	6.0	10.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline			Kero.
	Tank wag.	Dlr.	Incl. tax	tank wag.
Dallas, Tex.	12.0	16.0	5.0	7.0
Fort Worth	12.0	16.0	5.0	8.0
Houston	13.5	17.5	5.0	7.0
San Antonio	13.0	17.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank wag.	Incl. tax	Kero. tank wag.
Halifax, N. S.	25.0	10.0	19.0
St. John, N. B.	25.0	10.0	19.0
Montreal, Que.	24.0	8.0	16.5
Toronto, Ont.	23.5	8.0	16.0
Hamilton, Ont.	23.5	8.0	16.0
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.0
Regina, Sask.	25.5	7.0	20.5
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.9
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Continental Oil Co. February 21 reduced tank-wagon and dealer gasoline 0.5 cent in Little Rock; February 23, reduced tank-wagon and dealer gasoline 0.5 cent in Billings, 1 cent in Butte, 1.5 cents in Great Falls, 2 cents in Helena; February 23, reduced tank-wagon kerosene 1 cent in Billings, 2.5 cents in Butte, 3.5 cents in Great Falls, 3 cents in Helena, 2 cents in Salt Lake and Boise, 1.5 cents in Twin Falls.

Atlantic Refining Co. February 21 reduced consumer tank-car gasoline 0.5 cent in Philadelphia.

Standard Oil Co. (Kentucky) Febru-

(Continued on Page 111)

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of March 5, 1940

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.03¼	.03½
63-66 octane	.03¾	.03⅞
67-69 octane	.04	.04⅛
70-72 octane (regular)	.04¼	.04⅜
60-62 400 grades:		
62 octane and below	.03¼	.03⅜
63-66 octane	.03¾	.03⅞
67-69 octane	.04	.04⅛
70-72 octane (regular)	.04¼	.04⅜
68-70 360	.04½	.04¾

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.03¼	.03½
63-66 octane	.03¾	.03⅞
67-69 octane	.04	.04⅛
70-72 octane (regular)	.04¼	.04⅜
60-62 400	.03⅜	.03⅜

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04¼	.04½
63-66 octane	.04⅜	.04⅝
70-72 octane (regular)	.04⅞	.05⅛

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below		.04¼
70-72 octane (regular)		.05⅛

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.03¾	.03⅞
63-66 octane	.04	.04⅛
67-69 octane	.04¼	.04⅜
70-72 octane (regular)	.04½	.04⅝
60-62 400 grades:		
62 octane and below	.03¾	.03⅞
63-66 octane	.04	.04⅛
67-69 octane	.04¼	.04⅜
70-72 octane (regular)	.04½	.04⅝
68-70 360	.04⅝	.04¾

PENNSYLVANIA (inland refineries)—

58-62 U. S. Motor		.05
72-74 octane (regular)		.06¼

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.05¾	.07
58-60 400, 65 oct. and higher	.07	.08

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.07¼
Philadelphia	.06½	.07
Boston	.06¾	.07¼
Baltimore	.06½	.06¾
Charleston, S. C.	.06¾	.07¼

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
65-67 octane	.04⅝	.04¾
68-70 octane	.04¾	.05
70-72 octane (leaded)	.05	.05¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.02
Grade 18-55	.02⅝	.02⅝

NORTH TEXAS—

Grade 26-70		.01⅜
Grade 18-55		.02⅛

CALIFORNIA—

75-85 375-390	.05¾	.06

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.02⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03¾	.03⅞
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03¾	.03⅞
46-48 gr., 210-230 l.b.p., 480-max. e.p.	.04	.04⅛

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03¾	.03⅞
42-44	.03⅞	.04

NORTH TEXAS—

41-43	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03⅝	.03¾

ARKANSAS (Ark. and N. La. del.)—

41-43	.03¾	.03⅞

PENNSYLVANIA (inland refineries)—

45	.05	.05¼
46		.05⅛
47		.05¼

CHICAGO (Based on Group 3)—

41-43	.03¾	.03⅞
42-44	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05¾

NEW YORK (Bayonne, N. J.)—

41-43	.056	.065

***GULF COAST (domestic)—**

41-43	.04½	.04⅝

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03¾	.03⅞
No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03⅜	.03½
No. 3 zero to 10, 28-32	.03⅜	.03½
No. 3, 15 and above, 28-32	.02¾	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03⅛	.03¼

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅜

CHICAGO (Based on Group 3)—

Range oil	.03¾	.03⅞
No. 1 prime white, 38-40	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03¾	.03½
No. 3, zero to 15, 28-32	.03⅜	.03½
No. 3, 15 and above, 28-32	.02¾	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.058	.065
*No. 2	.051	.056
*No. 4	.051	.06

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.70	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.75	.80
No. 6, 15 and above, 8-14	.50	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.50	.55

PENNSYLVANIA (inland refineries)—

36-40	.04	.04½

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.25
24 plus diesel, per bbl.	1.15	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.65	.75
10-16 (cargo lots)	.65	.75
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65
San Joaquin Valley:		
10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.15	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel		.04¼
43-47 diesel		.04
48-52 diesel		.04¼
53-57 diesel		.04½
58-and-above diesel		.04¾
Bunker C (bulk cargoes)	.97	1.00
Bunker C (bunkers)	.90	.95

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.051	.052
28-30 diesel (lighterage 6¼c per bbl.)	2.10	2.20
28-30 diesel (tank cars)	.05	.053
Bunker C (to ocean-going ships in N. Y. Harbor)		1.50
Industrial fuel (tank cars)	.035	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.28
150-160 D, 0-10		.24
150-160 D, 10-25		.23
100-110 D, 0-10		.23
100-110 D, 10-25		.22
Steam refined:		
600 dark green (untreated)		.08

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point	.27	.28
15 pour point	.26	.27
25 pour point	.25	.27
Steam refined:		
600	.14	.15
650	.16½	.17½
600 flash	.17½	.18½
630 flash	.21½	.22½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.12
180-3		.13
180-4		.12½
200-3		.13½
200-4		.13
250-3		.15
250-4		.14½
280-3		.16
280-4		.15½
300-3½		.16½
400-3½		.17½
100-2½ paraffin oil		.07
10-25 pour point:		
200-3		.13
200-4		.12½
250-3		.14½
250-4		.14
280-3		.15½
280-4		.15

GULF COAST—

Pale oils:		
200-3	.07¼	.07½
300-3	.07¾	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09¾	.10
2,000-4		.10¼
Red oils:		
200-5-6	.07	.07¼
300-5-6	.07½	.07¾
500-5-6	.08¼	.08¾
750	.08¾	.09¼
1,200-5-6	.09¾	.09¾

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¾	.08
350-5-6	.09¼	.11¼
400-5-6	.09¼	.11⅛
450-5-6	.09¼	.11⅛
500-5-6	.09¼	.11⅛
600-5-6½	.09¼	.11⅛
700-6½ plus	.09¼	.11⅛
750-6½ plus	.09¼	.11⅛
900-6½ plus	.09¼	.11⅛

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point	.28	.28½
10 pour point	.27	.27½
15 pour point	.26	.26½
25 pour point	.24½	.25½
200 vis. at 70° F., 3 color:		
Zero pour point	.30	.30½
10 pour point	.29	.29½
15 pour point	.28	.28½
25 pour point	.26	.27

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale		.05⅛

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.05⅛	.05¼
124-126 (A.m.p.) w.c. scale	.05⅛	.05¼

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax	.060	.063
128-130 (A.m.p.) wax	.061	.064
130-132 (A.m.p.) wax	.065	.066
133-135 (A.m.p.) wax	.067	.0685
135-137 (A.m.p.) wax	.069	.072
Crude scale:		
124-126 (A.m.p.) w.s.	.0525	.0550
124-126 (A.m.p.) y.s.	.0525	.0550
Petrolatum in barrels, carload lots:		
Dark green	.03125	.03375
Amber	.03375	.03625
Extra amber	.03625	.03875
Lily white	.05875	.06000
Snow white	.06875	.07000
Cream	.04875	.05000

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05	.05⅝
60-62 400	.05¼	.06¼
61-63 390	.05¼	.06¼
64-66 375	.05⅝	.06¼

LOS ANGELES—

U. S. Motor grades:		
60-65 octane	.05½	.05⅝
65-69 octane	.05⅝	.06¼
Above 69 octane	.06¼	.06½

KEROSENE

GULF COAST—

41-43 water white	.04¼	.04¾

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered	.22½	.23
630 S.R. unfiltered	.24	.26
600 flash, S.R.	.25½	.27
630 flash, S.R.	.31	.32
Bright stock:		
Light, 25 pour point	.34	.36

NEUTRAL OIL

200-3 color	.35½	.36
150-3 color	.34	.36

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.	.070	.0725
125-127 A.m.p.	.0725	.0750
128-130 A.m.p.	.0750	.0775
133-135 A.m.p.	.0775	.0800
135-137 A.m.p.	.0825	.0850
Crude scale:		
124-126 w.s.	.0525	.0550
124-126 y.s.	.0525	.0550

Personal Paragraphs

P. F. BROWN, manager of the Texas unit of Honolulu Oil Corp. of San Francisco, and stationed at Midland, Tex., for the past several years, was named a vice president of the company by A. C. MATTEI, president of the corporation.

DON W. PRESCOTT, trainee in the exploitation department of Shell Oil Co., Inc., has been transferred from the Wichita, Kans., office to Pampa, Tex.

J. E. BRANTLY, of Drilling & Exploration Co., Los Angeles, spoke to the Petroleum Engineering Club of Texas A. & M. College on February 27 on "Oil Exploration in Latin America."

JULIUS FOHS, president of Fohs Oil Co., Houston, Tex., is visiting in New York.

C. H. ALSBERG, manager of the Franklin Creek Refining Corp., Franklin, Pa., has returned from a Florida vacation.

JAMES PARKER, superintendent for Arrow Drilling Co. in West Texas and Southeast New Mexico, last week transferred his headquarters from Midland to Fort Worth, Tex.

FRANK DENMAN, Centralia, Ill., is now engaged in the pipe-line contracting business with the firm of Barnes & Denman, which has headquarters in Centralia. Mr. Denman was formerly with the Guiberson Corp.

K. B. ABSHER, independent operator, formerly of Wichita, Kans., has established headquarters in Mattoon, Ill. The firm of Absher & Booth was completing its first well in the Tonti pool in Marion County, Illinois, last week.

H. S. STARK of Honolulu Oil Corp.; ROSS McCOLLUM of National Oil Co.; F. E. SMITH of Ohio Oil Co.; L. R. ROGERS of Superior Oil Co.; E. R. BURNS of McDonald & Burns; V. H. WILHELM of Texas Co.; HAROLD WYATT of Shell Oil Co., Inc.; W. H. GEIS of Union Oil Co., and R. I. BROWN of Standard Oil Co. have been appointed to the election committee to make preparations for the annual election of representatives from each field which will comprise the Central Committee of California Oil Producers official curtailment group.

R. W. TESCH, JR., assistant division engineer with Stanolind Oil & Gas Co. in its Fort Worth, Tex., offices, was in Austin, Tex., last week taking the bar examinations.

ROSS HARDIN, state representative from Limestone County, Texas, for 6 years, formally announced his candidacy for railroad commissioner in opposition to Lon A. Smith.

DR. LUIS E. KEMNITZER, for several years geologist for Petrol Corp. in California and formerly with Henry L. Doherty & Co., foreign department, in Canada and Germany, has established his office as consulting geologist in Los Angeles, Calif.

B. V. (BOB) BARKER, trainee in the exploitation department of Shell Oil Co., Inc., has been transferred from Great Bend, Kans., to Pampa, Tex.

NEIL HUMMEL, for the past 2 years superintendent of Barnsdall Oil Co.'s natural-gasoline plant near Odessa, Tex., has been transferred to the company's Oklahoma City properties.

EARNEST SNEED, formerly production foreman with Lone Star Gasoline Co. at Eldorado, Tex., has been transferred to Ranger, Tex., where he has assumed the duties as assistant district superintendent of production under H. C. KELLEY of Ranger.

E. J. GRIFFIN, Los Angeles, Calif., division sales manager of Shell Oil Co., Inc., was the principal speaker at the monthly meeting of the Los Angeles Petroleum Accountants Society. L. A. WILLIFORD, of Macmillan Petroleum Corp., is president of the society and the chairman of the last meeting was H. J. BROWN of Shell Oil Co., Inc.

ALBERT E. LANDSITTEL, sales manager of Globe Oil & Refining Co., Wichita, Kans., is seriously ill with pneumonia at the hospital in Appleton City, Mo. His illness followed an automobile accident, developing into pneumonia.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

It cost less than $20,000 in cash to drill Bradford's deep well (5,830 ft., and dry) but much material was donated, or sold to the promoters at a discount, in order to assure a test of the deep formations in northern Pennsylvania.

Dr. Walter F. Rittman's cracking process for extracting gasoline and other higher fractions from crude oil and refinery residue is pronounced practicable by government scientists, a Washington dispatch says.

The pipe-line charge from Kansas and Oklahoma to Bayonne, N. J., is 70 cents per barrel via the Prairie, Illinois, and Tide Water pipe lines. The gathering charge is 12 cents per barrel additional. The producer at present is getting only 40 cents per barrel for crude that costs 82 cents to run and ship to the Atlantic coastal market.

20 YEARS AGO

Pennsylvania Grade crude oil is advanced to $6.10 per barrel; Kansas, Oklahoma, and North Texas crude to $3.50; Illinois, $3.52; Lima, $3.48; Indiana, $3.27 and $3.28; Gulf Coast, $2.00; North Louisiana $1.75 to $3.25.

Joseph M. Cudahy is elected president of Sinclair Refining Co., succeeding W. H. Isom who becomes chairman of the board.

Robert W. Young, retired, for years president of the Consolidated Gas Co. of Pittsburgh, dies at his winter home in Daytona, Fla.

10 YEARS AGO

J. E. Eaton, consulting geologist, estimates that California will yield 8 billion barrels of oil before its petroleum resources are exhausted. It had produced 3,330,351,217 bbl. up to January 31, 1930.

Mid-Continent crude ranges in prices from 60 cents to $1.44 per barrel. Thirty-six gravity oil is posted at $1.20.

JACK PEW, head of Sun Oil Co.'s Dallas, Tex., offices, and his family have returned home after a short vacation trip to Palm Springs, Calif.

V. E. LOUNSBERRY, chief geologist, and C. O. STARK, head of the land department of Phillips Petroleum Co., Bartlesville, Okla., were in Shreveport, La., last week on business.

H. W. STRALEY, III, of the geology department of Baylor University, Waco, Tex., has returned to his duties after a severe attack of influenza complicated by a middle-ear infection.

TOM WREN, independent oil operator of South Texas, is well enough to be moved from the Physicians and Surgeons Hospital to his home in San Antonio where he is in the convalescent stage.

D. R. KNOWLTON, general production superintendent for Phillips Petroleum Co., Bartlesville, Okla., delivered an address on production practices with emphasis on well completion methods and unitization before the Dallas Petroleum Geologists in Dallas, Tex., last Tuesday.

W. F. RHODEHAMEL, of Seaside Oil Co., discussed balanced selling and R. E. HINES of Caminol Co., spoke on the relationship of independent oil producers, independent refiners and independent dealers at the dealers' convention in Los Angeles, Calif., this week. The convention is sponsored by the Retail Petroleum Dealers Association of which W. B. WYLIE of Los Angeles is executive secretary.

E. C. BREENE has returned to Oil City, Pa., after spending some time in Tulsa and inspecting Mid-Continent oil properties.

A. C. RUBEL, vice president, and EARL B. NOBLE, chief geologist, of Union Oil Co., have returned from a business trip to Texas and the Gulf Coast area.

DAVID H. LEVY, engineer with Magnolia Petroleum Co., Dallas, Tex., addressed the intrafirm organization of Magnolia Young Men's Clubs Monday evening on electricity's role in the oil industry.

FRANK ROSE, of Valdosta, Ga., has been named president of Georgia Resources, Inc., which is drilling a wildcat test on a large block of acreage in Clinch County, where a show of oil has been obtained.

E. T. MONSOUR, consulting geologist, formerly associated with Humble Oil & Refining Co. in Mexico, addressed members of the Shreveport Geological Society on the stratigraphy of that country last week.

EUGENE McDERMOTT, of Geophysical Service, Inc., Dallas, Tex., addressed members of the Mississippi Geological Society in Jackson last week on "Soil Analysis" at the regular semimonthly meeting of that organization.

WALTER S. SPEARS, formerly assistant chief supervisor of exploration and development, Union Producing Co., has been made district manager of the company at Houston, Tex., a position created with the removal of the company's general offices to Shreveport, La. FORD HUBBARD also will remain in Houston as district land man, and ROY BECKELHYMER as district geologist.

Laboratory Lured Him

Dr. Robert E. Wilson, president of Pan American Petroleum & Transport Co., who recently received the Chemical Industry Medal of the Society of Chemical Industry, has exhibited unflagging interest in research work throughout his career. The laboratory always lured him.

DR. ROBERT E. WILSON

Born in Beaver Falls, Pa., in 1893, Dr. Wilson received the degree of Ph.B. from the College of Wooster in 1914, B.S. from Massachusetts Institute of Technology in 1916, and Sc.D. from Wooster in 1931. He worked in the research laboratory of General Electric Co. in 1916 and was research associate in applied chemistry at Massacusetts Tech in 1916-17. During the next few years he was successively assistant director, director, and associate professor of chemical engineering. He entered the oil industry in 1922 as assistant director of research for Standard Oil Co. of Indiana. He was made assistant to the vice president in charge of manufacturing in 1929, later becoming director and then vice president in charge of research and development. He was chosen vice chairman of Pan American in 1935 and now heads that company. He is active in the American Chemical Society, American Institute of Chemical Engineers, Society of Automotive Engineers, American Society for Testing Materials, and American Petroleum Institute. The Chemical Industry Medal is awarded annually for valuable application of chemical research to industry. Dr. Wilson has made a special study of the utilization of refinery gases.

OTTO KOCH, president of the Kendall Refining Co., Bradford, Pa., is spending a vacation in Florida.

P. J. JONES, production engineer for Texas Co., Fort Worth, Tex., was the principal speaker at the meeting of the Fort Worth Geological Society.

W. R. BIRKMAYR, manager of the gasoline division, Pennzoil Co., has resigned effective April 1. He will be succeeded by J. G. Miller, Erie branch manager.

J. L. HARPER, geologist, Hillsboro, Ohio, is presently located at Jackson, Miss., in which state he will be engaged for several months in taking geophysical surveys.

H. D. EASTON, JR., of Amory, Miss., is spending several days in Shreveport, La., Houston, Tex., and South Arkansas before returning to his work in the Northwest Alabama basin.

THOMAS BROWNFIELD, manager of the statistical and scouting department of Carter Oil Co., Tulsa, has returned from Arp, Tex., where he was called by the death of his father.

MARIANO GUERRO, assistant export manager of L. Sonnenborn & Sons, New York, left the United States March 1 on a cruise to Netherland West Indies and South American ports.

JAMES A. MOORE, formerly connected with Petty Geophysical Engineering Co., San Antonio, Tex., has become associated with Union Sulphur Co., Sulphur, La., as manager of the exploration department. HARRY KILLIAN, formerly geologist with Pan American Production Corp., Houston, has been added to the geological department.

TEN men whose pioneering work in petroleum technology resulted in "significant contributions to the American standard of living" have been honored as "Modern Pioneers" by the National Association of Manufacturers. To the eight honored at a banquet in Chicago February 20 (The Oil and Gas Journal, Feb. 22) have been added: OTTO BEHIMER, formerly research chemist of Texas Co., Port Arthur, Tex., and Universal Oil Products Co.; GARLAND HALE BARR DAVIS, director of research laboratories, Standard Oil Development Co., New York; CARLETON ELLIS, research consultant, Standard Oil Development Co., New York; ERLE PALMER HALLIBURTON, president and general manager, Halliburton Oil Well Cementing Co., Los Angeles, Calif.; DR. RUSSEL PEARCE HEUER, vice president in charge of research, General Refractories, Philadelphia, Pa.; EUGENE HOUDRY, president and director of research, Houdry Process Corp., Wilmington, Del.; THOMAS MIDGLEY, JR., vice president, Ethyl Gasoline Corp., Detroit, Mich.; DR. CARL F. PRUTTON, Lubri-Zol Corp., and head of department of chemistry, Case School of Applied Science, Cleveland, Ohio; CLARENCE H. THAYER, engineer, Sun Oil Co., Philadelphia, Pa.; and ROBERT E. WILSON, president, Pan American & Petroleum Transport Co., New York.

J. E. SUTTLES has joined Union Oil Co. of California as district land man in the Houston, Tex., office.

R. B. OWENS, Texas A. & M. engineering graduate, has returned to Bonham, Tex., after 16 months' service in Soviet Russia in the manufacture of aviation gasoline. He will leave shortly for a new station in Argentina.

JOHN A. BROWN, of New York, president of Socony-Vacuum Oil Co., Inc.; D. A. LITTLE, president of Magnolia Petroleum Co., Dallas; A. L. WEIL, president of General Petroleum Corp. of California, Los Angeles; L. S. SINCLAIR, vice president of Magnolia Petroleum Corp., Dallas, and R. L. MINCKLER, assistant to the president of General Petroleum Corp., Los Angeles, have been inspecting the company's properties, including a visit to the Magnolia refinery at Beaumont, Tex., where Mr. Brown referred to the installation of a reforming and thermal polymerization unit as part of the expansion program.

A. E. BEASLEY, chief clerk in the scouting department for Shell Oil Co., Inc., at Houston, Tex., has been promoted to scout and transferred to Jackson, Miss.

SHIFTS: L. M. GAY, superintendent, Glassell & Glassell, from Carthage, Tex., to Lafayette, La.; J. E. LOW, superintendent, Amerada Petroleum Corp., from Monument, N. M., to Midland, Tex.; LEO W. KONZ, engineer, Carter Oil Co., from Harrisburg, Ill., to Jackson, Miss.; ALEXANDER C. RASMUSSEN, engineer, Universal Oil Products Co., from Grozny, U.S.S.R., to Chicago, Ill.; ANATOLE SAFONOV, geologist, Union Producing Co., from Houston, Tex., to Shreveport, La.; JAMES L. SMITH, engineer, Magnolia Petroleum Co., from Kermit, Tex., to Dallas, Tex.; KATHERINE RYAN, president, Dolores Oil Corp., from Longview, Tex., to San Antonio, Tex.; VICTOR WENZEL, president, Simplex Oil Co., Inc., from Shreveport, La., to La Canada, Calif.; MELVIN D. MAUCK, geologist, Pure Oil Co., from Olney, Ill., to Henderson, Ky.; HAROLD L. COPELAND, engineer, Carter Oil Co., from Harrisburg, Ill., to Jackson, Miss.; J. F. SCOTT, engineer, Carter Oil Co., from Carrollton, Ill., to St. Elmo, Ill.

EQUIPMENT PROGRESS...

Logan Engineering Co. Line of Aridifiers Is Now Complete

Logan Engineering Co., 4912 Lawrence Avenue, Chicago, has completed its line of Aridifiers for removing

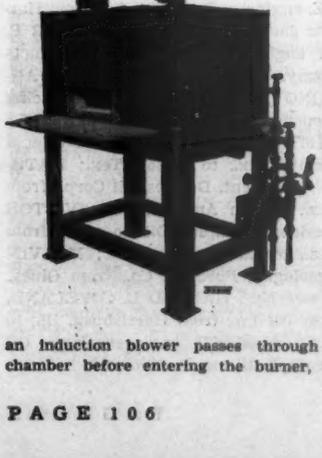
moisture and oil from air and gas lines in all sizes from ⅜ to 10 in.

All sizes remove dirt, scale, oil, and moisture from compressed-air lines and gas lines, foreign matter impinging on a multiplicity of "propeller blades" revolving in opposite directions and propelled by the flow of oil or gas. The arrested contamination and moisture are collected in the lower housing, from where they are drawn off as occasion warrants.

All sizes are simply constructed, easy to install in any line, interior or exterior, operate without back pressure and require no maintenance or attention other than a periodical cleanout. These units are designed for gas lines, compressed-air lines and for compressed-air lines on air-driven or actuated operating equipment in field and refinery. Aridifiers are pictured and described in Bulletin 939, which gives complete operating and installation details on units from ⅜ to 10-in. standard pipe sizes for gas or air cleaning and drying.

Rock Drill Bits Heated Rapidly In Newly Designed Furnace

Ingersoll-Rand Co., 11 Broadway, New York, announces the new Jackfurnace for the rapid heating of the company's detachable rock drill bits, known as Jackbits. Designed especially for the servicing of Jackbits, the furnace can be used with either Jackmills (hot-mills) or grinders. It can also be used for heating shanks and rod ends for hardening.



Low-pressure air from an induction blower passes through a preheating chamber before entering the burner, thereby aiding combustion and increasing efficiency. Convenient controls enable the operator to attain the proper mixture of oil and air. The furnace can be equipped with an automatic temperature-control device.

The Jackfurnace will heat approximately 180 Jackbits per hour for rehardening. It is well insulated to insure low room temperature for the operator. The manufacturer furnishes, as standard equipment, a loading spoon and an unloading device to facilitate the handling of Jackbits to and from the furnace.

Maps and Other Documents Copied By Simply Operated Machine

The Duophoto, introduced by Duophoto Corp., 30 West Twenty-fifth Street, New York, is a simple portable machine that makes legal and authentic copies in about 1 minute in the light of an ordinary office, without any dark room. Anybody can operate the machine on a small desk or table. Engineers, draftsmen, architects, accountants, manufacturers, public utilities, and all departments of oil companies where there is occasion to make copies of any type of document will find uses for the Duophoto. Blueprints, maps, orders, contracts, letters, etc., are copied easily.

The machine is enclosed in a compact, sturdy, tamper-proof case. It is operated with the a.c. or d.c. current from any ordinary electric socket. No technical or photographic experience is required, and no special equipment is needed. The Duophoto produces a duplicate of any document, including photographs, up to 22 by 24 inches in size. No exact timing is necessary and there are no mechanisms to watch.

Reversible Single-Drum Hoist Put on Market by Sullivan

Sullivan Machinery Co., Michigan City, Ind., has announced its Class L-111 reversible Pistonair single-drum hoist. This hoist is light and compact and is equipped with large-diameter drums for long rope

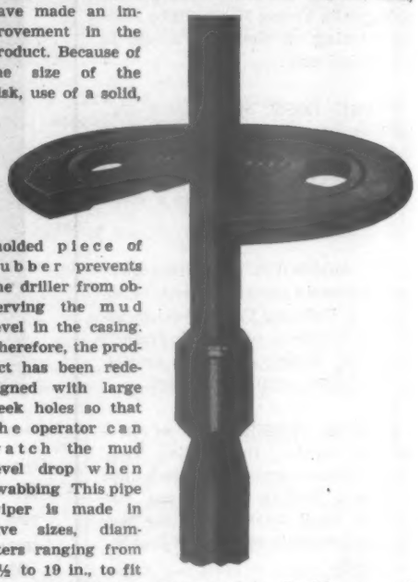
wear, heavy-duty Lubriseal ball bearings and four-cylinder reciprocating air motor. It is fully enclosed and can be furnished with either positive or friction-type clutch. According to the manufacturer, it is convenient and economical for both surface and underground application.

Becomes Division of Worthington

Worthington Pump & Machinery Corp. announces that effective January 2, 1940, its subsidiary, Moore Steam Turbine Corp., of Wellsville, N. Y., will be conducted as Moore Steam Turbine Division of the corporation. A nation-wide sales organization has increased the volume of steam turbine sales to a point where it has been necessary to provide additional plant equipment. A new manufacturing building and new equipment are about ready for use.

Improved Pipe Wiper Enables Driller to Watch Mud Level

Since introduction of the large rubber pipe wiper several months ago, engineers of Patterson-Ballagh Corp., 1900 East Sixty-fifth Street, Los Angeles, Calif., have made an improvement in the product. Because of the size of the disk, use of a solid,

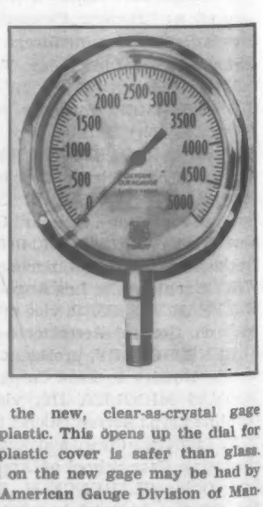


molded piece of rubber prevents the driller from observing the mud level in the casing. Therefore, the product has been redesigned with large peek holes so that the operator can watch the mud level drop when swabbing This pipe wiper is made in five sizes, diameters ranging from 9½ to 19 in., to fit any size drill pipe. Because of its flexible center, it cleanly wipes mud or muck from the drill pipe and does not hinder collars and protectors from coming up through the wiper.

This improved wiper is made from specially molded rubber, reinforced at the periphery with a flat metal insert disk. No metal is exposed. By designing windows in the web there is a saving in weight, but no reduction in the strength of the rubber. The wiper is placed under the rotary table.

Latest Oxygen Duragauge Has Important Safety Features

Ashcroft announces a new special oxygen Duragauge for high-pressure oxygen service. The case is a heavy brass casting with a safety solid front and a full open back. The back of the gage is sealed with moistureproof paper, protected by a thin brass disk. The mounting lugs on the case hold it away from the wall.

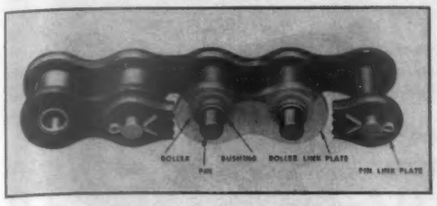


The Bourdon tube is beryllium copper, and the socket is forged bronze. For the sake of safety no steel is used. Accuracy is guaranteed to within ½ of 1 per cent.

The gage is also streamlined, having the new, clear-as-crystal gage cover of transparent plastic. This opens up the dial for easier reading. The plastic cover is safer than glass. Complete information on the new gage may be had by writing the Ashcroft American Gauge Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn.

Diamond Chain Devotes 50 Years To "Doing One Job Well"

"Fifty years of doing one job well" is the record claimed by Diamond Chain & Manufacturing Co. of Indianapolis, Ind., which is observing its semicentennial



anniversary. When it is realized that 256 individual pieces are required to make 1 ft. of single-strand ⅜-in. pitch chain, the shortest pitch made, the phrase has new meaning.

To illustrate one of the details take the development of the manufacture of a roller-chain pin, apparently one of the simplest elements that can be found in any mechanism. This pin, however, must meet difficult requirements. It must be hard to resist wear, tough to withstand shock, and strong in shear to produce tensile strength in the chain. It must be smooth to provide a wearing surface, accurate in size to hold the chain pitch within correct limits, and in no circumstances must it loosen up so that it will turn in the side links.

Fifty years ago these requirements were ingeniously (but inadequately) met by carburizing lengths of round material, cooling them slowly and then cutting the pins. In cutting the shoulder on each end of the pin, the high-carbon surface was removed so that when the pin was heated and quenched, the body was hard and the ends were soft so they could be riveted over.

The next important development was a spinning operation that replaced the riveting and produced greater uniformity and better finish. The introduction of alloy steels to replace the plain carbon steels came next. This increased the wear resistance and strength of the pin but produced new problems. The very hard alloy steels were destructive to spinning tools and also made the press fit in the sideplate less effective. It was necessary to improve the manufacture of the sideplate hole into which the pin is pressed to restore the all-important holding power. Reamed holes were developed, together with automatic machines to produce them. Later, an even better technique was devised which shaved the holes in an operation similar to broaching.

As users increased the speeds at which they operated chains, accuracy became more and more important, and the bodies of the pins, which formerly had been satisfactory with a cold-drawn surface, were ground now in centerless grinders. But the pin head could not be ground and even with the most careful screw machine work, it was not as accurate as the pin body and it was impossible to make it exactly concentric with the pin body. This led to the use of the straight unshouldered pin on which the ends could be ground.

Meanwhile the character of the sideplate hole was so improved that the shoulder, formerly necessary to maintain right assembly, was unnecessary. The spinning operation was supplanted by a simple pressure upsetting since there had been developed a method for drawing the temper of the pin ends so that a small quantity of material could be displaced.

New materials constantly were coming on the market. New heat-treating methods were the subject of laboratory and shop experiment. With every step automatic machinery had to be designed and built. Tools had to be invented, tried out, and scrapped or continued. When so much had to be done for such a simple thing as a chain pin and when simultaneous development had to be carried on for hundreds of other chain parts, "doing one job" looks like an understatement.

Booklet Gives Progress Program

A 48-page brochure "$200,000 Industrial Progress Award Program," just published by the James F. Lincoln Arc Welding Foundation, Cleveland, Ohio, is the official document of the 2½-year industrial progress program, announced by the foundation in January. It is the culmination of more than a year of planning and development, by trustees and officers of the foundation in collaboration with many other individuals to formulate a program of industrial study and research which would be productive of greatest possible benefit, not only to industry but to society at large.

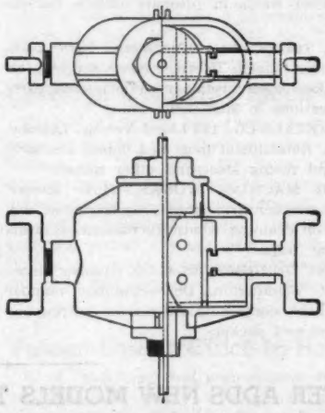
About half the brochure is devoted to listings and illustrations of typical subjects for study in the 12 classifications and 46 divisions of the progress program. Copies may be obtained by all individuals interested in participation in the program themselves or by executives and others who desire to encourage participation by employes, friends or associates. Requests should be addressed: Secretary, James F. Lincoln Arc Welding Foundation, Cleveland, Ohio.

Research Building for Cummins

A modern laboratory and research building is being finished for Cummins Engine Co., Columbus, Ind., builders of automotive, marine and industrial full-diesel engines. The building will be of the rigid-frame "whale-back" type. This new structure will house five departments: Metallurgical; chemical; engineering, record, and supervision; machine and assembly; engine testing and development.

Kibele Rod Stripper Connects To Any Size Tubing or Tee

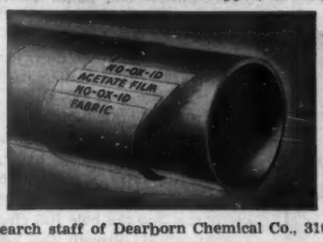
A rod stripper whose adjustable packing elements accommodate any size rod has been put on the market by Kibele Manufacturing Co., Dallas, Tex. Packings can be backed off when it is not desirable to strip, thus saving wear. Packings are either fitted closely to the rods or backed off by manipulation of screw handles which have coarse threads to permit rapid movement. The Kibele stripper also prevents escape of oil and gas while running rods in heading wells. It connects to any size tubing or tee.



Kibele also manufactures a blowout preventer which connects to the female thread on the bottom of the stripper. While operation is similar, its construction differs in that the preventer has two retractable metal rams whose sealing surfaces are covered with thin replaceable rubber packings. The stripper and preventer in combination provide protection against uncontrolled pressure surges.

Protection for Pipe Line Given by Reinforced Fabric Wrapper

High strength, pliability, and resistance to moisture penetration are characteristics of the new improved No-Ox-Idized reinforced fabric wrapper, developed by



the research staff of Dearborn Chemical Co., 310 South Michigan Avenue, Chicago.

This new wrapper finds application in the protection of underground and exposed pipe of all sizes in combination with protective coatings. It acts as a shield and seal to the pipe coating, keeping out moisture and oil and preventing mechanical injury due to soil or abrasive action.

The wrapper consists of a fabric laminated with a sheet of acetate membrane. The fabric is impregnated and coated with a heavy grade No-Ox-Id. The acetate sheet is also coated on both sides with No-Ox-Id. This laminated combination seals in the undercoating.

The fabric provides the necessary toughness and strength to enable a tight wrap with either machine or hand application. The flexibility of the wrapper makes it particularly effective for hand application over pipe joints and other irregular surfaces.

Cummins Announces New Warranty

Cummins Engine Co., Columbus, Ind., manufacturer of Cummins Dependable diesels, has announced a new warranty policy under the terms of which the company guarantees its diesel for 100,000 miles or 1 year. The warranty states that Cummins diesels "are warranted to be free from any defects in workmanship and material under normal use and service . . . within the first 12 months or the first 100,000 miles of operation, whichever shall first occur, from date of delivery of the engine to the original purchaser."

Central Tube Liquidates Business

Central Tube Co., of Pittsburgh, Pa., manufacturer of welded steel pipe and conduit, has announced liquidation of its business and has contracted to dispose of its plant and inventories. Spang Chalfant, Inc., of Pittsburgh, took over Central Tube's distributing connections as of February 26, 1940. Stockholders were to meet March 6 to approve sale of the plant.

Export Agent for Champion Rivet

Champion Rivet Co., Cleveland, Ohio, has completed arrangements with United States Steel Export Co., 30 Church Street, New York, to handle the exclusive sale of Champion welding electrodes for export.

CHIKSAN ESTABLISHED IN NEW HEADQUARTERS

Headquarters of Chiksan Tool Co., formerly in Fullerton, Calif., are now established on the company's new property in Brea, Calif., where the general offices occupy a modern office building. The property, purchased from Shell Oil Co., Inc., includes facilities for housing the Chiksan factory, testing department and stock warehouse. Machinery and equipment are being transferred from the old location to the new one as rapidly as production schedules make this possible. Owing to the increasing demand for Chiksan products, including ball-bearing swing joints and all-steel rotary hose, both in the United States and foreign countries,

Earle R. Atkins, sales manager, reports sales for 1939 were the largest in the company's history, with indications that this year will exceed last. The Chiksan line is distributed nationally by Crane Co.

Bowen Junk Basket Recovers Steel Objects Lost in Hole

A new-type junk basket for quickly and easily recovering small steel objects lost in the hole has been introduced by S. R. Bowen Co., Santa Fe Springs, Calif. The tool incorporates a unique principle of fluid circulation which provides inward fluid flow for washing the fish into, rather than away from, the center of the basket body.

The Bowen junk basket consists essentially of a top sub, a combination inner and outer barrel having fluid ports, a ball valve, a junk catcher and a standard mill-type shoe. As the basket is run into the hole full circulation is maintained through the center of the tool as well as side passages, thus keeping the barrel clean and free from heavy mud. Then by simply dropping a steel ball down the pipe, the entire fluid flow is diverted through the side passages of the barrel. This forces fluid to flow outward and downward against the circumference of the hole, where it is deflected from the sides in such a manner that all loose objects are washed to the center.

The fluid stream, flowing to the center of the tool and up through it to return ports, creates a reverse circulating action so that, by opening the pumps to full capacity and rotating the tool on bottom, all material is forced into the center of the barrel, where it is trapped and held by the core catcher. The mill quickly cuts a short core in the formation, further aiding in guiding the junk into the basket.

The basket can be obtained in a wide range of sizes for holes up to 17 in. in diameter. Various assemblies are available for use on the bottom of the tool.

Speeds Checking of Welds

A new fillet-weld gage developed by General Electric is designed to meet a need for a fast, accurate means of checking the size of fillet welds on jobs which have to meet rigid specifications. The device, which slides readily into a shirt or trouser pocket, consists of three stainless-steel stampings held together by a bolt and a knurled thumb-nut. Either convex-concave or standard fillets can be checked merely by fitting the edge of the gage flush against the work so that the indicating portion of the gage rests on the weld bead. The gage can be used on fillets of ⅜-in., ¼-in., $\frac{5}{16}$-in., $\frac{7}{16}$-in., ½-in., and ⅝-in. sizes. These sizes are clearly marked on the gage.

Improved Voltage Regulator Is Offered by Allis-Chalmers

Allis-Chalmers Manufacturing Co., switchgear division, Milwaukee, Wis., has announced its new Type V-11, rocking-contact voltage regulator for control of small a.c. and d.c. generators. This improved regulator is even more sensitive, quicker acting, and of greater capacity than the company's earlier small regulator models. The streamlined case now closely harmonizes with the company's larger, more expensive rocking-contact regulators used with larger generators. It is arranged for attractive semi-flush mounting on a switchboard panel or bracket.

There are no vibrating contacts, tubes or other parts requiring replacement or readjustment at frequent intervals. The enclosing case excludes dust and foreign matter, thereby reducing maintenance. Only two simple adjustments need be made at the time of installation, since all major adjustments are made at the factory. Due to the rocking-contact principle incorporated in the Type V-11 regulator, it is quick-acting, since it regulates the voltage by directly varying the resistance in the exciter field circuit.

TRADE LITERATURE

COCHRANE CORP., Seventeenth Street and Allegheny Avenue, Philadelphia, Pa.—Bulletin 2925, Cochrane Multiport drainers.

PHILADELPHIA THERMOMETER CO., Philadelphia, Pa.—Catalog 104, the new Philadelphia Merc-to-Merc Thermo-Regulator and Visual-Stat.

FAIRBANKS, MORSE & CO., 600 South Michigan Avenue, Chicago.—Seven bulletins, 5550C, Builtogether pumps; 5810D and 5874A, single-stage split-case centrifugal pumps; 5520P, side-suction centrifugal pumps; 5972, two-stage centrifugal pumps; 5410C, sewage and trash pumps; 5430, close-coupled sewage and trash pumps. All have selection tables, typical specifications, principal dimensions, and other engineering information.

BAIRD MANUFACTURING CO., Tulsa.—Bulletin 100, seats and balls.

MARMON-HERRINGTON CO., INC., Indianapolis, Ind.—Current number All-Wheel-Drive Pictorial News, featuring "Oil Is a Hard Taskmaster for Trucks."

INTERNATIONAL NICKEL CO., INC., 67 Wall Street, New York.—Current number Nickel Steel Topics, featuring nickel-steel welds in pressure vessels for oil-refinery use.

BAKER OIL TOOLS, INC.—Huntington Park, Calif. —Current number Cement Retainer News Service, featuring part Baker cement retainer has played in early deepening operations in Montebello field.

McKENNA METALS CO., 173 Lloyd Avenue, Latrobe, Pa.—Catalog 3, Kennametal tools and blanks for turning, boring, and facing steel and other metals.

ARMSTRONG MACHINE WORKS, Three Rivers, Mich.—Current number Armstrong Trap Magazine, containing article on draining Kentucky natural-gas wells with Armstrong traps.

E. I. DU PONT DE NEMOURS & CO. (Rubber Chemicals Division), Wilmington, Del. — Current number Neoprene Notebook, containing articles on stuffing-box packings and oil-well packers.

Motor and Pump Integral Unit In Worthington Monobloc

A balanced Monobloc centrifugal pump, in which the motor and pump have been engineered as an integral unit of balanced functional design in contrast with

mere adaptation of a motor to a pump, is announced by Worthington Pump & Machinery Corp, Harrison, N. J. This new pump is exceptionally compact, requiring a minimum of floor space, but has ample room for repacking the stuffing box. A shaft of large diameter, on rigid bearing mountings, maintains concentricity in all rotating parts, thereby increasing packing life. The new dripproof motor features a directed flow of ventilating air, which prevents drawing of moisture into the motor.

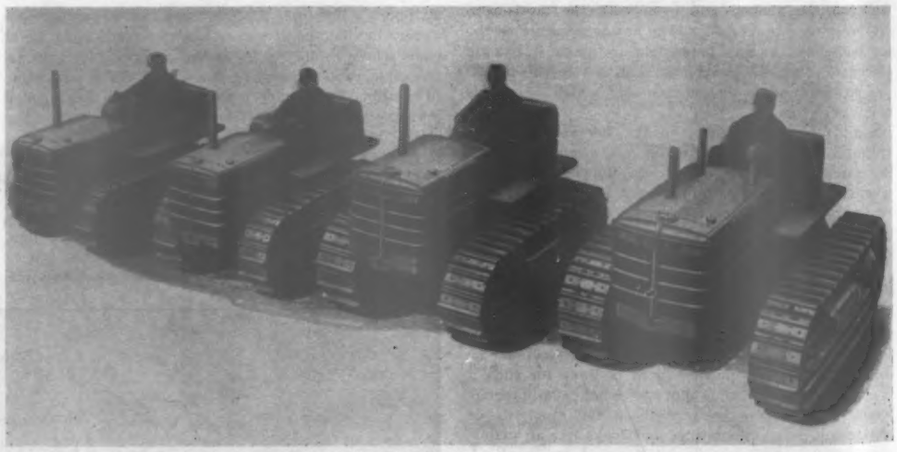
The unit is offered in sizes of from 1 to 4 in., with capacities to 1,000 g.p.m. against heads up to 280 ft. It is available in bronze-fitted, all-iron and all-bronze construction, horizontal or vertical mountings, with motor of any electrical characteristic.

Larger Diesel Electric Sets

To answer a demand for larger self-contained "Caterpillar" diesel electric sets, Caterpillar Tractor Co., Peoria, Ill., has added a 66-kw. and a 52-kw. unit to its line. The two new sets, the 11-52 and the 13-66, are completely self-contained and require no gadgets other than a circuit breaker. Both are powered by six-cylinder heavy-duty diesel engines, and both are said to require a minimum of maintenance and adjustments. As with the smaller sets, they can be set up and running within an hour after delivery.

HARVESTER ADDS NEW MODELS TO ITS TRACTOR LINE

International Harvester Co., Chicago, has announced three new diesel crawlers, styled and engineered like the Model TD-18 diesel TracTracTor, introduced a year ago and still the largest of the International's crawler-



tractor line. They are the TD-6 TracTracTor, smallest of the three new models; TD-9, next in size; and TD-14, largest. With the original TD-18, the International diesel crawler line now consists of four sizes, with drawbar horsepower ranging from 30 for the TD-6 to more than 70 for the TD-18. A TracTracTor of same size as the TD-6, to be known as the T-6, will be available soon with a combination gasoline-distillate engine.

Every one of these new TracTracTors is equipped with a full diesel engine giving full diesel fuel economy. As with other International diesels, each engine of this new line is provided with a distinctive method of starting by which it starts on gasoline and, after about a minute of operation, shifts to full diesel operation. A conventional automotive-type electric starter is regular on the TD-18 and is available as special equipment for each of the other models.

The new TD-9 and TD-14 have more power, wider speed range, and greater adaptability than the TD-35 and TD-40, which have been proving themselves in all sorts of work the past several years. The TD-6 is entirely new and is the smallest International diesel TracTracTor ever developed. The engine of the TD-18 has six cylinders, and each of the three smaller models has four.

Convenient Storage for Maps Provided by Filing Cabinet

A safe and convenient method of preserving maps is offered in a filing cabinet manufactured by Port City Cabinet Works, 609 Quitman Street, Houston, Tex. This cabinet, of special interest in oil company offices, makes it possible to keep drawings, regardless of size, properly filed and protected, but always instantly available. Thousands of dollars worth of research work often is in danger of being lost or destroyed because there are no facilities for filing maps of tracings larger than ordinary size.

The Port City cabinet contains rows of wells, each 2 in. square, making it unnecessary to put maps in paper tubes. The front row of wells is made to accommodate maps 42 in. wide. Each successive row is stepped up 2 in., so that the back row accommodates 54-in. maps. By using the adjusting blocks and rods maps of shorter width may be filed in an orderly manner. The cabinets are made to accommodate 60, 100, 150, and 200 maps. Other sizes are built to meet special requirements.

The cabinets are carried in walnut and oak finish. They may be had in other finishes, as well as in solid walnut or mahogany. Each cabinet is fitted with a mortised Yale lock. The top is equipped with solid-brass stop hinges, which hold it rigidly.

AMONG EQUIPMENT MEN...

Inventor of Equiflux and Other Important Devices Honored

Joseph G. Alther, vice president of Universal Oil Products Co., explains his outstanding invention, the Equiflux heater, to James D. Cunningham, president Republic Flow Meters Co., in Universal's conference room, against a background of engineering drawings.

The Equiflux heater is characterized as an epochal invention in oil refining, especially cracking. In it,

according to the manufacturer, are applied in a unique way principles that give complete temperature control and make every square inch of heating surface equally effective. Millions of barrels of oil are being processed yearly in Equiflux heaters, saving money for refiners and reducing the cost of making better gasoline.

Mr. Alther received an award for this and his other inventions February 20 at the "Modern Pioneers" dinner in Chicago, sponsored by the National Association of Manufacturers, the Illinois Manufacturers Association, and the Wisconsin Manufacturers Association, to celebrate the 150th anniversary of the American patent system and to honor outstanding contemporary inventors. Mr. Cunningham at left in the picture, presided at the dinner.

BUSINESS NOTES

Charles E. Wilson, vice president in charge of Pacific Coast operations of Worthington Pump & Machinery Corp., is moving his headquarters to the home office in Harrison, N. J., where he will direct the sales of the Carbondale division.

One of the companies which have definitely announced plans for participating in the International Petroleum Exposition of 1940, in Tulsa, is Smith Meter Co., Los Angeles, Calif. According to H. F. Detrick, president, the exhibit will include operating models of truck, pipe-line, loading-rack and refinery meters, and meters for handling butane and propane gases.

Eastman Oil Well Survey Co. has opened a division office at Lafayette, La., with H. G. (Spec) Livingston as manager. The office will serve the entire state.

Don C. Davis has resigned as president of the Arrow Supply Co., Inc., of Fort Works, Tex.

Cordage Company Elects Officers

Francis A. Bryant was reelected chairman of the board of directors at a recent meeting of New Bedford Cordage Co., New York. Mr. Bryant has been president for many years and will continue active in certain duties. George W. Haywood, formerly vice president, was elected president. Philip H. Diehl, formerly treasurer, was elected vice president and treasurer. Martin Walter, Jr., newly elected second vice president, is in charge of mill operations at New Bedford, Mass.

Vulcan Opens Office in Houston

L. M. McKinney has been named manager of the new Southwest sales office opened in the Sterling Building, Houston, Tex., by Vulcan Steel Tank Corp., Tulsa. Mr. McKinney goes to Vulcan after many years spent on the Gulf Coast, where he has had extensive experience in production, refining, and marketing.

Vulcan has opened the new district office to offer its customers, refiners and natural-gasoline operators in the Southwest generally a more convenient and a more efficient service on Vulcan steel-plate work and pressure vessels for gasoline plant and oil-refinery equipment.

Holden With Texasteel Staff

James R. Holden has been advanced by Texasteel Manufacturing Co. to the position of sales engineer. Mr. Holden attended the United States Military Academy, Annapolis, Md., 3 years before enrolling in the University of Oklahoma, from which institution he holds a B.S. degree in mechanical engineering. After graduation he was employed by Gulf Oil Corp. as Trainee engineer until January 1939 when he accepted employment with Rowan Drilling Co.

Mr. Holden was employed in the engineering department of Texasteel in September 1939 and remained there till his recent promotion.

Macwhyte Employes Guests at Golden Wedding Celebration

George S. Whyte, chairman of the board of Macwhyte Co., Kenosha, Wis., and Mrs. Whyte celebrated their golden wedding anniversary with a dinner at which all company employes and their wives were guests. All arrangements were handled by Mrs. Whyte. Over 650 were present.

When Mr. Whyte, affectionately known as Sandy, passed his threescore and ten in 1937 the employes presented him with a bronze plaque on which were engraved facsimiles of their signatures. On the occasion of the golden wedding anniversary, they gave Mrs. Whyte a handsome grandfather's clock on which was engraved: "Presented to Mr. and Mrs. George S. Whyte on their golden wedding anniversary by the Macwhyte employes February 15, 1940."

Mr. Whyte worked in the mines of Scotland at $1 a day, coming to this country in 1883. In 1896 he and others formed a sales agency for wire rope, with a capital stock of $2,500, only half of which was paid in cash. In 1901 he started to manufacture wire rope in Coal City, Ill. In 1912 the Coal City plant was abandoned as insufficient to meet the growing business, and at Kenosha, Wis., two plants were built.

Anderson Manager of Dallas Office

Cutler-Hammer, Inc., Milwaukee, Wis., manufacturer of electrical-control apparatus, has appointed E. K. Anderson manager of the branch office in the Santa Fe Building, Dallas, Tex. This office serves Arkansas, Texas, Oklahoma and the southern part of New Mexico. Mr. Anderson has been with the company for years and has had broad experience in all phases of electric lighting and power applications. He is thoroughly familiar with the application of Cutler-Hammer motor control, multi-breakers, safety switches, service control and other electrical equipment.

Howard Houston Engineers' Envoy

J. H. Howard, chief engineer for McEvoy Co., is the official envoy of the Houston Engineers Club on the Houston Chamber of Commerce good-will tour of South America. The tour includes many important oil centers of South America, among them Santiago, Chile; Buenos Aires, Argentina; Rio De Janeiro, Brazil; Port of Spain, Trinidad; Caracas, Venezuela, and Bogota, Colombia.

Mr. Howard will appear before many engineers' assemblies during the tour and will establish valuable contacts with the rapidly growing group of South American engineers.

Two Chain Belt Men Advanced

Chain Belt Co., Milwaukee, Wis., has elected J. C. Merwin treasurer in addition to that of vice president and the appointment of L. B. McKnight as assistant to the vice president. Mr. Merwin, who is also a director, joined the organization in 1917. Before his election as vice president he was works manager. He is a graduate of Sheffield Scientific School, Yale University, 1910. Mr. McKnight has been associated with the company since 1926 when he became secretary and sales manager of the Stearns Conveyor Co., a subsidiary. In 1933 he was appointed sales manager of the company's conveyor division in which capacity he continues. He is a graduate of Purdue University, 1915.

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PATENT ATTORNEY
Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas; 2014 Second Nat'l. Bank Bldg., Houston. 506 Aztec Building, San Antonio, Tex., 457 Munsey Building, Washington, D. C. Address any of these offices.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

BROKERS and SALESMEN
only
A complete SERVICE EXPERTS in every department of the Oil Business at your SERVICE a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
P. O. Box 1120, Santa Fe, N. M.

NEW MEXICO WEEKLY OIL REPORT. Send for sample copy.
BOX 968, HOBBS, N. M.

WATCH GEORGIA — Drilling-Sands — Showings—For drilling deals write C. W. Deming, Reg. Dealer, Waycross, Georgia.

THE
OIL PROPERTIES EXCHANGE
Alexander Building
Tulsa, Oklahoma
We have for sale many oil and gas producing properties, complete reports, various sizes, various states, also Royalties, Drilling Blocks, Oil Payments.
Write us
If you want to BUY or SELL a property.

WELL LOGS. Drillers' logs of approximately 4,000 wells drilled in New Mexico are available from Well Log Division, New Mexico Bureau of Mines & Mineral Resources, Socorro, New Mexico. Write for price list C.

NINETY-FIVE acres, lead-silver mine, heart Couer D'Alene District, Idaho, proven. Two vein systems from nearby Hecla-Marsh mines, have paid $50,000,000 in dividends, run through property. $150,000 now invested, no indebtedness. Smelter nearby. $30,000 should develop to profitable production. Security ample, substantial interest in property, use of money: references. P. O. Box 1684, Tulsa, U. S. A.

WAYNE COUNTY, Indiana. Two shallow gas wells completed. Two locations moving in on one immediately. Hancock County, Indiana. One oil well completed. Trenton production. Two new locations, Randolph County, Indiana. One location, commence thirty days. Trenton production in all three blocks. 30,000 acres in the above blocks for sale. Write Jno. M. Seip, Richmond-Leland Hotel, Richmond, Ind.

Leases and Drilling Blocks

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, and leases located in Clay County, Tenn. Have for sale two tracts of proven Fluorspar and Zinc deposits; reports furnished on request. W. P. Harley, Bowling Green, Kentucky.

KENTUCKY
We represent two corporations owning approximately sixty thousand acres of mineral lands in Laurel, Whitley, and McCreary Counties. Tracts vary in size up to five thousand acres. Owners are interested in leasing or selling all or part of their holdings.
DOLLE, O'DONNELL & CASH
3715 Carew Tower, Cincinnati, Ohio

NEW MEXICO
STATE OIL AND GAS LEASES
40 acres and multiples thereof. $6.00 to $60.00 per forty. Buy direct. Save those dollars. No middle man to pay; no salesman to bother you! Twenty years in the business without a complaint. Write for information.
HARRY S. WRIGHT
New Mexico State Lessee
Wright Bldg., Farmington, New Mexico.

LOCALE with torsion balance, coredrill have positive proof, we contract T.B. Exploration core. Shotpoint. Shallow oil drilling. Take part oil. Core and T.B. Expl. Box 182, Odessa, Tex. Ph. 9572.

FOR SALE 320 acres Mineral lease of my farm West Harrison County, George Taylor and J. Pane Survey. Per acre 3.50. as I'm in need of money. Note Mineral activity in this area. E. O. Williams owner, Marshall, Texas.

UNUSUAL OPPORTUNITY!

Eastern Shackelford County, Texas, Hogan & Humble drilled in 1922 encountered 40 feet saturation topped at 3621, oil flow before known use of acid 30 barrels, concensus of opinion located structurally high, mapped as IBEX foid, adjoining properties operated by Phillips Petroleum Co., large block surrounding well to be drilled Caddo Lime, acreage available $50.00 up, immediate action necessary.
Write W. Frank Minnicks
Oil Operator
c/o Texas Hotel, Ft. Worth, Tex.

INDIVIDUAL wants production, up to 500 bbls., for investment. Will consider stripper wells. Any field, any state. Illinois Oil Co., P. O. Box 1524, Tulsa, Okla.

FOR SALE—750 ft. gas production with acreage, on pipe line, eastern Kansas. Address Box K-512, The Oil and Gas Journal, Tulsa, Oklahoma.

Leases and Drilling Blocks

40 ACRES, Bennett-Denver area, Yoakum County, $50 base; 160 acres, Callahan lease, $5; 50 acres, Jones $500. W. H. Shanks, Abilene, Texas.

WILL lease 4-28-7, Butler Co., Kans.; prod. surrounds. Promising acreage everywhere solicited. A. Nickell, Fayette, Mo.

HAVE Oil lease located next discovery well shallow field Huerfano County, Colo. Will sell interests for reasonable figure and drill commitment thereon. 3 oil stratas above 1200 ft. Drill starting. G. A. Horney, Box 614, Pueblo, Colorado.

HAVE two drilling blocks Huerfano County, Colo. new field, no proration. One block 2500 acres in 3000 ft. area and small block in shallow field. Want make deal for development. S. W. Pressey, La Veta, Colorado.

REPRESENTING one of the famous Movie Actors, I want best oil producing interest $100,000.00 will buy. Reuben Usher, Cleburne, Texas.

FOR complete and accurate coverage of the new Artesia Area, read The ARTESIA (New Mexico), ENTERPRISE. $2 a year.

ACREAGE and Royalty for sale. 80 acres under Devonian test. Offset 80 acre lease, $20.00 per acre. Royalty $50.00 per acre base. P. O. Box 164, Carlyle, Illinois.

HAVE well down 1575 feet on large West Texas Dome, would like to contact parties financially able to finance hole to several good pay formations to 3,200 feet. Address Box K-523, The Oil and Gas Journal, Tulsa, Oklahoma.

COLORADO LEASE AND ROYALTY ACREAGE.
A great un-developed oil State, no proration; Rotary now drilling deep test. Royalty and Lease acreage near in Huerfano quadrangle.
JAMES E. TRESSLER
Walsenburg, Colo.

FOR SALE by original owners, drilling block. One thousand acres. Five miles Southwest of Tinsley field. Reasonable. Want development. Perry B. Taylor, Bentonia, Mississippi.

ILLINOIS — 240 acres — Devonian area for test 2500 feet. Structure-near production. Major Company support want prompt action. P. O. Box 164, Carlyle, Illinois.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

We buy and sell Royalties.
All offerings meet S.E.C. requirements.
CHESTER IMES
Tulsa Loan Bldg., Tulsa, Oklahoma.

ROBERT L. KINKAID, INC.
Tulsa Loan Bldg.
Tulsa, Oklahoma.

WE ARE IN THE MARKET FOR
DISTRESSED OIL PAYMENTS
WILDCAT OR PRODUCING
OIL ROYALTIES
Send Plat and Full Particulars
Immediate Action.
F. A. SANSOME, 522 5th Ave., New York

PURCHASERS AND DISTRIBUTORS
PRODUCING ROYALTIES
Registered with S. E. C.
INVESTMENT ROYALTIES, LTD.
Ramsey Tower, Oklahoma City, Okla.

ROYALTY, lease and oil investors in any state. Catalogue. Flory Co., Box 105, Fort Worth, Texas.

WALTER T. SCOTT
Tulsa, Oklahoma
Send inquiries for quotations and offering sheets on producing and non-producing properties.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Mailing Lists

ROYALTY Lists. Oil Investor Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

DIRECTORY of the Illinois Oil Basin now going to press. Write Midwest Oil Journal, Box 381, Centralia, Illinois.

Legal Blanks

SINCE 1908 Burkhart's legal forms—servicing Mid-Cont. oil fields, including Ill., La., Mo., Ind. & Ky. Free catalog & samples. Burkhart Ptg. & Sta. Co., 118 So. Cinn., Tulsa, Oklahoma.

Real Estate

FOR LEASE—Five to 10 years, shop now being used by Hydril Co.: two or more acres, all steel building with 15-ton crane, trackage, office building, all utilities, etc. Available April 15.
M. R. DUCEY, Owner
309 Webster, Houston, Texas

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

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1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

FOSTER WHEELER FRACTIONATING COLUMN

6' 6" Diameter x 72' High

Offered for Immediate Sale with Other Equipment at

UNITED REFINERY, RUSSELL, KANSAS

Two Pipe Stills—Steam Engine Driven Hot Oil Pump

WIRE *PHONE* *WRITE*

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba
Riverview at Second, Kansas City, Kansas

Robt. W. Duden
2100 S. Union, Tulsa, Oklahoma

"Motor Saver" and LUBRICATING GAS-O-LINE

AND SAVE

3 to 6c on GASOLINE. 25 to 40% Motor Expense. Original and Genuine lubricating Anti-Knock Additive, or highest powered Gasoline on American Market. Prove it for yourself. Introductory Delivered Price 99c on $2.00 package. Responsible Dealers Wanted.

LUBRICATING GASOLINE CO., HOUSTON, TEXAS

FOR SALE: O. C. Whse.—6700 Ft. 2" 10 Thd. 4.6# used insert seamless tubing C-48—I.T.I.O. Co., Bartlesville, Okla.

---

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio

FOR SALE: Orifice and Positive Gas Meters. GEO. R. MILNER, Okmulgee, Oklahoma.

FOR SALE—At Oklahoma City, one 10" Butler elevator with several sets extra slips, also, extra slips for 10" Butler spider. I.T.I.O. Co., Bartlesville, Okla.

BALL Valve Seat Grinder and equipment to start reconditioning business. Bargain. Jones, 1116 Bixby, Ardmore, Okla.

REBUILT ENGINES
FOR SALE

1 25 HP Muncie Horz. Oil Engine
1 30 HP Muncie Horz. Oil Engine
1 35 HP Muncie Horz. Oil Engine
1 45 HP Muncie Horz. Oil Engine
1 60 HP Muncie Horz. Oil Engine
1 60 HP Ball-Muncie Vert. Diesel
1 120 HP Ball-Muncie Vert. Diesel

DELAWARE MACHINERY AND TOOL CO., INC.
Muncie, Indiana
Successors to
Ball-Muncie Oil Engine Co.

FOR SALE: 7 Ft. x 20 Ft. Butane welded storage tanks 125# WP, capacity 6000 gallons. I.T.I.O. Co., Bartlesville, Okla.

10—100 HP 870 RPM—440 Volt 3 ph 60 cycle Westinghouse Squirrel Cage Motors. Complete with starter, rails and pulleys. Serial 4,776,000, First Class condition, will sacrifice for immediate sale. 1 5-ton electric hoist in good condition complete with beams. Universal Sales & Engineering Co., Box 2241, Tulsa, Oklahoma.

FOR SALE: 760 8¼" O. D. Couplings 8½" long for 39# pipe 7" I.D. 10 thread. A. A. Gilbert, Box 986, Shreveport, La.

FOR SALE

25,000 ft. of 4" seamless drill pipe equipped with both full hole and regular tool joints.
10,000 ft. of 7" 24# seamless casing, once run.
5,000 ft. of 7" 26# seamless casing, once run.
10,000 ft. of 2½" seamless tubing, used for flowing wells only.

We also have several complete drilling rigs, one with Unitized Draw Works capable of drilling 6,500 ft. The above is located in Shreveport, Louisiana.

We also have 30,000 ft. of 6" screw line pipe located in Oklahoma.

Wire, Write or Phone for Prices

Louisiana Iron & Supply Co.
Shreveport, Louisiana

FOR SALE at Oklahoma City Warehouse, large quantity 4¾" o.d. 16#, 5" o.d. 15# slotted-perforated liner and Stanciff screen pipe. I. T. I. O. Company. Bartlesville, Okla.

FOR SALE—$80,000.00 Rotary Rig complete. 10-in. Emsco Unit, 125-350 Boilers, etc. Practically new. Bargain. Roberts Bros., Box 306, Tyler, Texas.

FOR SALE cheap at Oklahoma City, 16" O.D. 28# and 20" 35# Naylor Plain end Spiralweld pipe, suitable for surface pipe. I.T.I.O. Company, Bartlesville, Oklahoma.

ONLY $22.50 NET TON!
(Carload Quantities)

Tubes, Steel Condenser, Used 150 tons, 5" O. D. ⅜" x ½" walls.

Other Pipe, Flues & Tubes also available.

IRON & STEEL PRODUCTS, INC.
13412 S. Brainard Avenue,
Chicago, Illinois.

"Anything containing IRON or STEEL"

FOR SALE—At Oklahoma City, 1—Muskogee Model "B" Skid type well service machine with PA-100 International Motor. I.T.I.O. Company, Bartlesville, Okla.

COMPLETE
CABLE TOOL DRILLING OUTFIT

Used Drilling Derrick with all Steel Equipment; 150 h.p. Gas-Gasoline Engine, Reverse Clutch, Light Plant, Circulating Tank, Good Bits, Ballers, Stems, Elevators, Tongs, Spider and Slips. Everything needed to drill a well, including Fishing Tools. Good condition throughout. Located at Gorham, Kansas. Very cheap price and liberal terms.

THE BRIDGEPORT MACHINE COMPANY
Wichita, Kansas.

FOR SALE the following Oil Field Boilers
2 125 HP Luceys—1 125 HP Oil Well
5 100 HP Luceys—1 100 HP Broderick
2 90 HP Kewanees—3 85 HP Titusvilles
All in good condition and priced to sell
Lucey Products Corporation—Tulsa.

FOR SALE: Bartlesville Warehouse—**3800' New & 2600' used 1½" 2.731# Butt Weld Reading Wrot Iron Tubing. I.T.I.O. Company. Bartlesville, Oklahoma.**

Equipment Wanted

ONE plate and frame type filter press, minimum 100 square feet, maximum 200 square feet surface. Quote best price and give description. Box K-521, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED: 180 H.P. Superior or Cooper slow speed gas engine. P. O. Box 43, Tuscola, Illinois.

WANTED: 8' x 12' Oliver Continuous Filter. Send full specifications and prints. Address Box K-525, The Oil and Gas Journal. Tulsa, Oklahoma.

WANTED: Cardwell Model W Double Drum Combination Drilling Rig, mounted on "Caterpillar" D-7 Diesel Tractor. Must be in A-1 Condition. J. O. Crittenden, 1924 Oliver Building. Pittsburgh. Pennsylvania.

WANTED, Spudder complete, with tools, capable 2000 ft. drilling. Ft. Worth Super or Jumbo D preferred, others considered, must be good, nothing obsolete, sumbit details, invoice, tools, price. A. V. SMITH, 1510 Miller Ct., Owensboro, Kentucky.

Financing

CAPITAL SEEKERS

Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

JOHN MORRIS, Box 5411, Philadelphia studied records 5000 financial houses. Found only 191 buy new issues. $4.00.

Situations Wanted

REFINERY ENGINEER, Ch.E., Ph.D., married, 19 years' diversified experience in lub oils, thermal and catalytic reforming and cracking, polymerization, hydrogenation and alkylation processes and engineering design. Desires position with oil company interested in progressing along catalytic lines. Box K-494, The Oil and Gas Journal, 415 Lexington Ave., New York City, N. Y.

REFINING ENGINEER—M.S. Degree. Capable and experienced in modern refining operation and processing A-1 Asphalt technologist. Address Box K-511, The Oil and Gas Journal, Tulsa, Oklahoma.

CHEMICAL Engineer: gasoline plant operator for 6 months; refinery draftsman for 6 months; 2 years total drafting experience; 1939 graduate. Desires plant operation and or jr. engineer's training course. P. O. Box 1211, Bartlesville, Okla.

ELECTRICIAN: Gasoline plants, refineries, construction and maintenance. Good references. Can save you money, would like interview. Box K-520, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

PETROLEUM Engineer with successful sales experience in oil well pumping equipment. Preferably under 35 years of age. Qualifications and full particulars desired in first letter. Strictly confidential. Address Box K-491, The Oil and Gas Journal, Tulsa, Oklahoma.

PETROLEUM GEOLOGIST and stratigrapher wanted to be in charge of experimental geological work in well logging. Must have experience. Address Box K-506, The Oil and Gas Journal, Tulsa, Okla.

DRAFTSMAN by Mid-Continent refinery with topping, cracking, reforming, and catalyst experience. Must be able to handle complete design of piping, furnace, bubble towers, etc. Send full particulars first letter on age, education, experience, salary and references, including photograph. Address Box K-524, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED

Factory sales representative familiar with Mid-Continent oil field by manufacturer of improved line of portable cable-tool drilling and servicing rigs. State age and experience. Address Box K-522, The Oil and Gas Journal, Tulsa, Oklahoma.

For Sale—Maps

TEXAS and NEW MEXICO
UP-TO-DATE OIL DEVELOPMENT MAPS
Zingery Oil Map Co., Fort Worth, Tex.

R. B. ROBINSON MAPS
Jackson, Miss. 3-Hart Bldg., Across Street from Heidelberg Hotel. Ownership maps All Over Mississippi.

Survey Service

REMEMBER EAST TEXAS

When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years experience. A wise man investigates. George Miller, 1548 Post, Torrance, Calif.

Tank-Wagon Changes

(Continued from Page 102)

ary 3 reduced consumer tank-wagon and net dealer gasoline 0.5 cent in Covington; February 15, reduced tank-wagon kerosene 0.5 cent in Macon.

Standard Oil Co. (Indiana) February 14 reduced dealer gasoline 1 cent in Grand Rapids; February 27, reduced tank-wagon kerosene 0.7 cent in Grand Rapids.

Standard Oil Co. of Louisiana February 24 reduced tank-wagon kerosene 1 cent in Lafayette.

Standard Oil Co. of New Jersey March 1 reduced tank-wagon kerosene 0.4 cent in Wheeling.

Gulf Coast Markets

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on which to base a going spot-market price structure, the confusion over discrepancies between the quoted market and the conceptions of prices at which material might be obtained with a bona fide order is being eliminated.

Sellers opened this week with prospects for improvement in the gasoline situation none too encouraging. Although there are reports that the British and French governments are attempting to negotiate deals for the purchase of substantial volumes of material from the Gulf Coast, no new business has actually developed. One of the largest independent refineries on the Gulf Coast, which was shut down 2 weeks ago pending improvement in the gasoline market, remains idle, while others are being forced to curtail operations further because of overflowing tanks.

Both sellers and buyers still concede that price no longer is a factor in the market and that any reasonable offer upon the part of a legitimate buyer would receive consideration.

Kerosene during the week developed into the strongest part of the market, with sellers unable to supply the demand. Several buyers were begging in vain for material Monday. Orders were not large, but Gulf Coast sources of supply normally are limited. Sales ranged from 4½ to 4⅝ cents.

Fuel and burning oils definitely were easier. This was not interpreted as reaching a point of weakness as sellers still were able to get their asking prices on the basis of previous prevailing quotations. Buyers were finding less difficulty in obtaining their requirements. There still was no oversupply of any grade, but the easing up was in contrast to the extreme tightness that existed for many weeks.

Difficulty still is met in movement of material due to the continued high tanker rates, which by holding up the eastern seaboard market will tend to delay any major weakening at the Gulf Coast.

The lubricating-oil market was unchanged and featureless. No important new business developed during the week, and no difficulty needed to be experienced in obtaining material.

Geological Field Trip

The Oklahoma City Geological Society is taking a field trip to the Wichita Mountains March 14-17. The geologists in the Mid-Continent area will meet at the Midland Hotel, Lawton, Thursday night, March 14, when Dr. C. E. Decker of the University of Oklahoma will lead the discussion of the area to be visited.

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